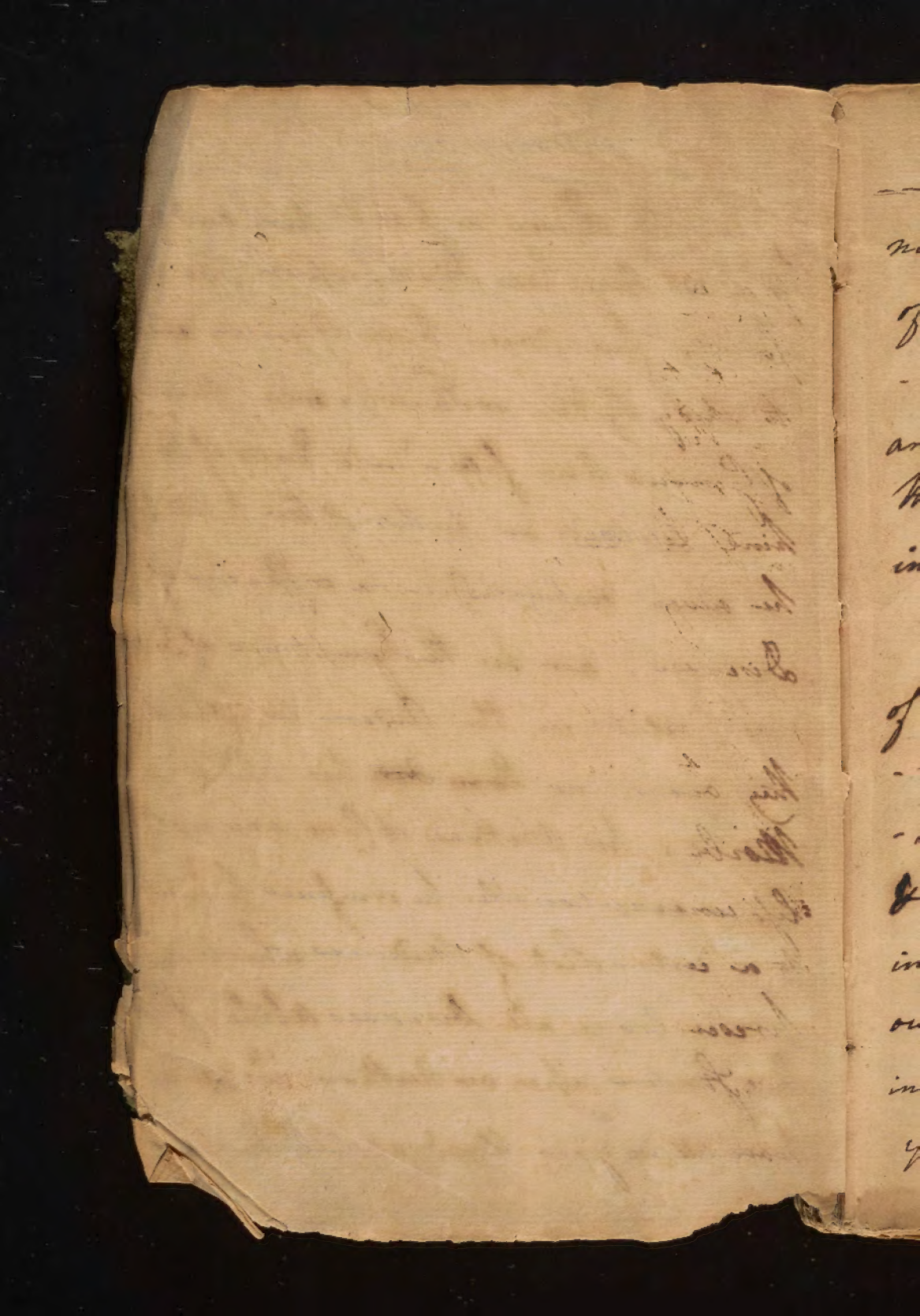
uniform in their Operation. upon the whole then I embrace the Dogmatic plan of teaching Physic, & shall deliver these Lectures in this way only. but I shall always combine Experience & Reasoning together.

but some will tell you y: all Physicians practise a like however different their Theories may be, & hence the little Importance of Theory or Reasoning in Physic! but I deny this fact, for altho in Consultations men may agree yet a man who thinks for himself will in his private practise judge for himself also. the Practise of different Physicians is widely different, & has always

1a, These strictures relate only to the Author's Precis de la Medicine

influenced by Theory as I would point out to you at large was this a proper place for it. Few men have Genius enough to study System or Theory. even men of Genius have fallen into Errors of this kind. Lieutaudis an Author of this kind. he never distinguish Genera or Species of Diseases, nor are the Symptoms of Diseases related in the Order in which they occur in ~~this~~ ~~2d~~ his Historia Morbi. his Methods of Cure are not ~~unexceptionable~~ he confines himself to a certain List of Medicines which he prescribes in all Diseases alike. I thought these Strictures upon an Author in: Upon you have all in your Hands absolutely new



nor do I think them foreign to a Course of Lectures on the Practice of Physic. - He tells us too that all his Recipes are the Result of Experience. Strange! that Experience shd. teach differently in France from wh. it does in England!

In my Opinion a new Method of studying Physic must be proposed. - Facts must be better arranged, - Diseases must be better distinguished & proximate Causes must always be investigated if we would wish to advance our Knowledge in Physic, & our Skill in curing Diseases. Still I would advise you not to be too much attached to

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any One System, altho some One System is Absolutely necessary. I believe we never had a worse set of Practitioners than at present, wch is owing to them not being attached to any One System, for we are fluctuating between ye Systems of Dr. Boorhaave Stahl & Hoffman.

But you are happy Gentlemen in having attended Dr. Gregory's Lectures upon this Subject wch I may say are the best now given in Europe. I do not pretend to improve upon them. all I design is, to deliver a few general Doctrines wch are peculiar to myself, & such as are not to be found in any Books of Physic. they are Notions wch I have embraced, & taught these 20 Years, & which many of you have heard & read from Other Mouths & Other Books besides my Own.

I shall now add, what Assistance you may receive from Books. I think it absolutely necessary that you should be acquainted w: the works of Boerhaave Stahl & Hoffman. next to these I would advise you always to have Sauvage's Nosologia Methodica before your ~~hands~~ Eyes, as also Linnaeus & Vogel who have each of them attempted a systematic Arrangement of Diseases.

To assist you in the Investigation of proximate Cause you must consult Dissections. the best Books for this purpose are Mangetus's Edition of Bonetus's Sepulchretum Anatomicum - Morganni de Causis & Sedibus Morborum; & a late work of Lieutaud's called "

Before I deliver my plan I shall give you a few more general principles. I before point=ted out to you the Importance & necessity of System in Physic.

Diseases may be distinguish'd 1st as Objects of Sense & in this manner may be reduced to a Nosologia Methodica & 2nd from their proximate Causes. This last Method of dividing Diseases has hitherto been neglect=ted. I shall not now offer my Reasons for adopting it, but hope to convince you of its propriety hereafter. We have great encouragement to proceed in Arranging Diseases in a systematic way from y^e success wch the votaries of Botany have met with in the Arrangement of plants. Dr. Gaulius has pointed out to us the possibility of the

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same success in Medicine in ~~lo~~ ye 840 §
of his Pathology. Altho' we have as yet
reaped no great Advantages from the Attempts
y^t have been made, yet it should not dis:
:courage us from making further & more
vigorous Attempts in this way. particu:
:lars cannot be studied by themselves from
w^h we said before concerning the Nature
of Definition in the Language of the
Logicians. when we knew but a few
Genera & species of plants our Investigation
of them was much more difficult than
at present since our Knowledge of plants
has become more enlarged. But even y^e
Science of Botany cannot be complete 'till
every plant in the world is found out. all

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this tends to show the necessity of reducing Particulars to System in Order to esta:=blish our Knowledge of them. this then is my Apology for the Strictures I intend to make on the Arrangement of Diseases by Others, & the One I propose to offer of my Own.

In all Systems of Science the utmost Respect must be paid to y^e Nomenclature of particular Genera & Species or all our Language will be very vague & inanimate. Denomination will always hold pace precisely w^th: Distinction in all Sciences more especially in Medicine.

I shall now give you a few Strictures upon the Systems of Physic that have

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been attempted each of which are far from being accurate. I shall therefore reject them all, but first give you my Reasons for it.

You see from the Comparison of three of them in the 2d page that Sauvauge Linnaeus & Vogell all agree in the 1st, 4th, 6, 7, & 9th: in the 8th & 10 Sauvage & Linnaeus agree, as also in their 2nd & 3rd, except that Linnaeus has divided one of their last Classes into 2 Orders. Sauvage & Vogel agree in general except in the 5th Class of the former & a few other particulars where Orders are made Classes or Classes Orders. The general Agreement of these 3 Authors points out the possibility & advantages of Systematic Arrangement in Diseases.

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Some of these Clases ought entirely to be rejected from our System. the Urtica is established by too a slender a Definition, as being derived from the feat, which we know is liable to great Ambiguity. - this Clas in particular is confounded th w: all the Diseases of the Skin wh w: properly come under another Clas.

The Anhelationes should likewise be rejected as being an improper Clas. it unites many Genera of Diseases which have no Relation to One Another except in the single Symptom of difficult Respiration. e/y Asthma & Hydrothorax have no Relation to One another but they are both arranged in this Clas.

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The Dolores should likewise have notwithstanding in a System of Physic. it is formed from a single Symptom which was the Case with the former Class. in all our Arrangement of Diseases we should strictly avoid blending Diseases together from Symptoms which are common to many or most of them. thus the Cardialgia & Rheumatism are placed in this Class. & yet how widely different are the Causes & Cures of these two Diseases! Besides he omits many Diseases which under this Head where pain is the most Characteristic Symptom, nor does he properly distinguish between Uneasiness & pain, & hence he reduces sickness Stupor &c to this Class. The Other 7 Classes of Sauvages may be admitted under proper

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Restrictions. the 2 & 3 viz: the Fevers & Phlegmasia might w: equal propriety have been reduced to the one general Class of Febres. they are however natural Classes. they are all defective in this particular viz: in having rejected all Cases of external Inflammation.

The 5th viz: the Spasmi is likewise a natural Class, & common to all the Authors we have spoken off. but it is defective in them all, in excluding the Asthma Palpitatio Cordis &c, nor should they be seperated from Other Spasmodic Diseases where the Spasm is more difficulty Observed.

The 6th Class Debilatates is founded in Nature but as it comprehends Organical Diseases

of the Fungus, which properly belong to another Class. this Class ought only to comprehend the more general Affections of the Mucous System.

The 8th Vesania is upon the whole a natural Class, but it is ~~fal~~ faulty in comprehending the Organical Affections of particular Organs such as the Cataract & several other Diseases of the Eyes wch have no Relation to Hypochondriasis or Delirium.

The 9th Fluxus is a faulty Class in not distinguishing those Fluxes wch are active & passive as Pathologists call them, as well as those wch are & those wch are not attended with Fever.

The 10th Cachexia is likewise incorrect in

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not distinguishing Organic from Systematic Affections. nor is the Definition of this Cl. properly restricted.

To these Classes of Lawrance Vogel has added another viz the Epischeses ch. w: Lawrance rejects upon the Acc: of its be defined by negative Qualities. this I grant should be avoided in all Definitions as much as possible, but they must sometimes be called in. Lawrance himself falls in to it in a hundred Instances in the Course of his work. — I cannot say however there was any necessity for a Class of this kind, as the suppression of Secretions is Often nothing else but a Symptom of Other Disease.

After having raised the Objections

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to these Systems of Physic I have presumed to offer One of my Own wch is indeed a very imperfect Attempt at a Nosologia methodica. I had not time to make it better. I tho't it absolutely necessary as a Foundation for these Lectures, and I am willing to sacrifice a little of my own Reputation ~~rather~~ for your Advantage.

I have divided the plan into two parts. the first come immediately under the notice of the Physician. the 2nd belongs more properly to the Surgeon & upon that acct. has often been left out of a Course of practical Lectures, wch I propose to do in this the present.

Synopsis morborum

Pars I.

Morbi universales sive totius systematis

Classis I. Pyrexiae. Post horrorem, pulsus frequens, & calor major, viribus artuum imminutis.

Ordo 1.mus Febres. Pyrexia sine morbo locali primario.

Ordo 2.dus Phlegmasiae. Pyrexia cum dolore topico.

Ordo 3.tius Exanthemata. Post pyrexiam phlegmasia pluries in cute sparsa.

Ordo 4.tus Haemorhagiae. Pyrexia cum profusione sanguinis.

Ordo 5.us Profluvia. Pyrexia cum auta secretione non sanguinolenta.

Class: II Neuroses. Sensus & motus affectiones sine pyrexia vel vitio organico.

Synopsis morborum

Clasis II Neuroses.

Ordo 1.mus Comata. Sensus & motus imminuti cum Lapore.

Ordo 2.dus Adynamia. Sensus & motus imminuti sine Lapore.

Ordo 3.tius Spasmi. Musculorum Fibrarum Contractiones inordinatæ.

Ordo 4.tus Vesaniæ. Sensus externi & interni inordinati.

Clasis III Cachexiæ. Habitus externi totius Corporis, vel magna ejus partis depravatus.

Ordo 1.mus Macies. Corporis extenuatio.

Ordo 2.dus Intumescentiæ. Corporis totius vel magna ejus partis volumen adauctum.

Ordo 3.tius Impetigines. Cutis defædata pustulis parvis, Crustaceis plerumque gregalibus.

Classis III Cachexiæ.

Ordo 4tus: Decolorationes. Cutis Color in toto Corpore mutatus.

Pars II.

Morbi particulares sive partis unius Organii.

Classis IV. Epischeses. Excrementorum suppressiones

Classis V. Dysaisthesiæ. Sensus imminuti.

—— VI Dyalysis - Solutiones Continui.

—— VII Excrescentiæ. Tumores a solidis adauctis.

—— VIII. Cystides. Tumores capsulati.

—— IX. Ectopiæ. Partium solidarum e suis Sedibus Dimotiones.

—— X. Maculæ. Cutis Coloris in partibus Mutatio. ——

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The 1st Class the Pyrexia is a natural Class & will therefore be readily admitted. All the Orders wch it includes comprehend those Diseases wch depend upon an increased action of those powers wch move the Fluids.

in the 1st Order under the Definition of Fever I have added the word primario. - you will see the propriety of this addition by consulting § 848 of Dr Gaubius's Pathology.

The 2nd Order Phlegmasia ought to comprehend a Definition of Inflammation but this would be foreign to our purpose I would have restricted it too much.

The 3rd Order you will perhaps think incomplete in not comprehending the

Erisipelas or Anthrax, but I shall tell you my Reasons for Omitting them here presently.

The 4th & 5th Orders are very generally attended with Fever & therefore come properly under this Class.

Class II. Neuroses. Physicians disagree about this Class. the Definition I have offered I hope will include them all.

The Orders I have placed under this Class are not new, but the Arrangement of them is somewhat different from Lauvage.

Class III. Cachexia. this is a very difficult Class, & all the Orders brought under it are included from Dogmatic Views

or from Notions of proximate Causes.

Order 1st Macies. I believe seldom exists. it is rather a Symptom of Other Diseases as we shall hereafter show.

Order 2nd the Intumuntia shall include all the Genus of Dropsy, as they all depend in some Measure on One common Cause.

I told you before y: I did not intend to treat of the 2nd part of the Classes of Diseases in our Plan. You will find them accurately pointed out & divided by Dr. Gaubius in his Pathology under y Head of "Morbi solidorum Continuorum", & morbi Instrumentari" ——

I shall now enter upon the Considera:
:tion of the 1 Class viz: the Pyrexia. I
shall Omit treating of this Class in a
general way, but proceed immediately
to the Difusion of the 1 Order viz: the
Febres where the Pyrexia do uniformly
attend. It is the great Advantage of
Nosologia Methodica to distinguish Disea:
:ses by those marks only wch are essen:
:tial & pathognomonic. Pyrexia therefore
& even a Quickness of Pulse are not suf:
:ficient to characterise Fevers. Some:
:thing else then must be called in. I
have therefore in Imitation of Sauvage
chose to distinguish it likewise by the
Horror wch do universally attend Fevers.

To guide us in our Distinctions we shall briefly point out the Symptoms of a Fever, & for the sake of Perspicuity I shall select that Species of Fever wch is called Intermittent.

This Disease comes on wth Lassitude stretching & Yawning. this Lassitude is attended wth Sluggishness Indolence & Inactivity. the Patient is unable to stand or exercise himself as usual. these Symptoms are succeeded wth Paleness, which begins in the Extremities & tip of the Nose. the Body now shrinks - the Skin contracts - Rings fall from ye Fingers - the

Red Papels disappear. the Skin is shrinked, but the nervous papilla project like Grow Flesh. the Body is now cold to the Touch especially the Feet. this sense of Cold is attended w: the creeping thrills w: are felt chiefly in the Back. this Cold is attended w: Tremors - Rigor w: are most vi=olent in those parts where ~~they~~ are least supported as in y Lower Jaw. - now a Heat begins to spread itself from the Præcordia to every part of the Body. the Tremors cease. the Co=lour & Fulness of the Surface of y Body return - the Face becomes red. &

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flushed with heat. a sweat now breaks out beginning in the Face, & gradually extending itself all over the Body. the sweat after a while ceases. & ye Body returns to its usual state except ye a Debility remains for some time after the Fever. This Paroxysm as thus described has been divided into several Stages. such as the Cold Fitt - the hot Fitt - & the time of sweat, or in other words ye Stadia Frigoris - Caloris & Sudoris. the Limits of these Fitts are not accurately defined. there are other Circumstances to be taken into our

Consideration such as the state of the Pulse in w: in the cold Fitt is weak & irregular. in the hot Fitt it becomes stronger, fuller & more regular, but is manifestly contracted & hard. as the Heat advances, the Pulse encreases in Fulness & Force. when the Sweat breaks out, the Pulse becomes more full but soft & when the Sweat goes off ye Pulse returns to its usual state.

The Respiration in the cold Fitt is small & laborious. in the hot Fitt it is lip frequent & more easy, & as the Sweating Fitt returns

it becomes more easy & natural.

The Secretions vary in these Fitts.
in the cold Fitt they are all Obstructed.
- the Skin is dry - the Mouth parched -
- the Bowels costive - no or very pale
Urine - But in the hot Fitt the Secre-
tions are gradually opened & in the
Stadio Sudoris the Bowels are
opened - the Pores are relaxed, & y^e
Mouth becomes moist, & ye Urine drops
a Lateritious Sediment.

In the Cold Fitt all Ulcers appear to
dry - Tumors detumesce & some 2
disappear, but as ye hot Fitt & sweat-
ing return these Ulcers pour out
new Matter & the Tumors again 2

appear.

The Functions of the Stomach are greatly changed. an Aversion to all Food takes place, as also to Tobacco Snuff &c. a vomiting sometimes comes on. But all these disappear at the Approach of the hot & Sweating Fitt.

a Debility continues thro all these three Stages. Sensation is greatly interrupted in the cold Fitt. the Eyes & Ears refuse to perform their Office. & the patient even becomes insensible to a ~~red~~ red hot Iron applied to the Feet.

at the Approach of the hot Fitt the a morbid Sensibility takes place to Light

&c. Convulsive Tremor, & a long train of nervous Symptoms appear in ye cold Fitt.

Thirst is common to all these 3 Stages but is generally greatest during the hot Fitt.

Pains are felt in ye Head - Back & Knees - they begin in the cold Fitt but are most violent in the hot Fitt, & generally keep have w^th: Delirium & a throbbing of the Temples.

Death for the most part happ: in the cold Fitt, or if it is in ye hot Fitt some Symptoms of the cold Fitt re: turn again.

These Symptoms are all greatly diver:

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:ified all Idiopathic Fevers have gene:
:rally more than one or two of these
Paroxysms if they terminate in an
entire Apyrexia they are called In:
:termittent, but if they do not they
are called Remittent. if it is diffi:
:cult to distinguish the Apyrexia they
are called Continuals.

Fevers are likewise distinguished by the
Circumstances of the ~~Paroxysms~~ Paroxysm
— the Pulse. Respiration & Tremor
vary in the cold Fit together with the
Sensations. the Heat & Thirst vary
in the hot Fit together with the whole San:
:guiferous System.

These are the general Facts in

the History of Fevers & lead us nata:
:rally to the Investigation of their prox:
:imate cause.

This is a very Abstruse Inquiry nor do I
pretend to remove every Difficulty y:
will occur in this Investigation.

I shall Omit taking notice of the
general Theories of Fevers th w: have hi:
:therto prevailed in Our Schools. When I
first began to teach Physic in
this University my Colleagues & pple
of Spasm th w: a kind of Horror, &
looked upon me as a chemical Inno:
:vator or a mere Paracelsus, but
now Most of them have embraced it.
even Vanswieten himself has reje:

: ted the notion of Fevers depending upon an Affection of the Fluids. Bo:
:relli & Hoffman first pointed out to us that Fevers depended on ye primary Affection of the Nerves, but I shall take no notice of their Opinions, & deliver my own as plain as I can.

The Lassitude the Stupor - the Drowsiness & Coma all show us that the Sensorium is Affected in the first Attack of Fever, & depend upon a diminished Energy of ye Sensorium this diminish'd Energy extends even to the Heart hence the small weak pulse & the paleness of ye Skin.

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Arteries are contracted distant from the Action of the Heart, & while ye Extremities of the Arteries are contracted, hence the Suppression & Obstruction of all the Secretions. This Constriction may be accounted for from the simple Elasticity or Contractility of the Extremities of the Arteries without having Recourse to an increased Influx from ye Sensorium.

While the ~~Blood~~ small Arteries are thus contracted the Blood is accumulated in the larger Arteries hence the difficult Respiration &c which we spoke off before. the Increased Action of ye Heart does not depend upon ye Stimulus of this accumulated Quantity of Blood, for its Sensibility is greatly demunished. —

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These Phenomena are succeeded by a considerable Increase of the Hearts Action. the Pulse becomes stronger & fuller, & this is occasioned in some measure by ye cold Fitt. But in w^h manner? this is a very difficult Question. we must refer it to the vis Natura Medicatrix w^h disposes the System to recover its Ballance when destroyed. I do not suppose this vis Naturæ Medicatrix depends upon ye action of a rational Intelligent principle, nor upon a Mixed Action of the Soul & Body as Dr Gaubius has done ~~supposes~~, but depends merely upon the Mechanical Operation of our Constitution & flows from w^h is called physical necessity.

2nd this ~~Dation~~ Phenomenon may be illustrated by

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a familiar Analogy. Sedatives take off the Excitement of the Sensorium but when taken in a moderate Degree rather excite the action of ye Sensorium which tends to remove the Sedative Impressions induced by the narcotic medicines.

Does the diminished Circulation of ye Blood in the small Arteries induce Cold, and a Constriction? & does this Sensation of Cold produce the Reaction of the Sensorium? this has been maintained from Cold exciting the increased action of the System, & inducing all the Phenomena of Fever. Cold there must be a necessary step in exciting the increased action of the System. But some Doubts

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may be offered to this Conjuture. all
lutive Hamorrhages are preceeded th w a
sense of Horror & Cold. now Hamor
rhages are generally attended th w Conges:
tion. this is most evident in y e Face
be fore the Eruption of Blood from y e
Nose. After Child Birth too we see a
Fever attend the Congestions th w: are formed
in the Breasts previouslo y e Secretion of
Milk. we see Congestions in y e Rheuma-
tism & Angina before the Horror & Other
Symptoms of Fever come on. I have
seen a bilious or calculous Concretion
bring on the Symptoms of Fever. in all
these Cases of Congestion the Sensorium
was excited to remove an uneasy Sensation

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Now all this tends to show y^t ye Reaction of the Sensorium does not depend upon Cold, but that the Phænomena of Fever depend upon the Reaction of ye Sensorium already began. hence we often see Fever exacerbated without any cold Fitt. — But why does the cold Fitt so often & necessarily intervene? — I do not think it a necessary Intervention altho' it is conducive to bring on the Symptoms of Fever especially the increased Action of the Heart & Arteries & hence the Reason why cold Bathing has been found so useful in certain States of Fever. the Cold then is rather a part of the hot Fitt, & occurs in ye Reaction of the Sensorium in wch ye hot Fitt exists.

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This is the Reason why the more violent ye Cold Fitt is, the Sooner the hot Fitt is formed, & the Sooner the Paroxysm is terminated by Sweat, & why ye most dangerous Fevers are generally ushered in wth little or no Shivering Fitt. Remitting Fevers where no Apyrexia appears are more dangerous than Intermitting Fevers from the Circumstance of their being attended wth no cold Fitt. Those Accessions of Fevers which prove critical are always introduced by an evident Cold Fitt. I conclude then that the Cold Fitt of Fever depends entirely upon the Reaction of ye Sensorium. I do not pretend to explain any further the Reason of the cold Fitt. we must refer

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it to a general Law of the System, or to the vires Naturæ medicatrices. it depends we said on the Reaction of ye Sensorium.

. the Sensorium is a Centre of Motion, but has no Motion in itself. all ye Actions of the Sensorium then arise from Impressions made on it, so that ~~the~~ every Action of the Sensorium ought to be considered only as a Reaction. to illustrate this still further we must consider the Operation of Sedatives in a more extensive Manner. Sedatives then do not act on ye Centre or internal part of the Sensorium, but act partially only. the part then on wch they do not act reacts again in a Short time, & thus restores the whole to an Equilibrium.

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Cold is a sedative of this kind. When applied to the Feet it induces a Desire to discharge ye Urine & Faces wch may depend upon the Reaction of the Medulla Spinalis, upon wch the Cold at first exerted its sedative powers. Not only the Cold is an active power of nature, but even the Tremors likewise & hence we always find them proportioned to the Action of the Heart & Arteries wch afterwards follows. Altho' ye cold Fitt depends upon the Reaction of the Sensorium, yet I will still allow that it may, when bro't on have some Degree of Stimulus wch may contribute towards exciting the Action of the Heart & Arteries.

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The Resistance to be overcome by the Sensorium when ye Cold is induced is a Spasm on the Extremities of the Capillary Arteries. an Atonia of these Vessels disposes to the Production of this Spasm w^ch: Atonia is brought on by the want of Antagonist powers or the Blood being propelled into them. this Atonia is always greatest in proportion to the Distance of any part from the Heart, hence the Reason why the surface of ye Skin is the chief Seat of Spasm. this Spasm continues for a considerable time during the hot Fitt. I am a Surprise ~~this Spasm~~ it constitutes the Fever & that when this is overcome the Fever is cured. this was formerly my

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Opinion, but we often see a Debility & want of Excitement of ye Sensorium precede the Spasm, & this must be removed before we cure Fevers. the hot Fitt is brot on by the Spasm & is supported by it, it is therefore a necessary Intervention in ye Cure of Fever. the Spasm then is not ye Disease itself altho the Cure of Fevers depends upon the Removal of it. the Spasm then is neither the fundamental Disease nor yet the Removal of it, but is the Effect of the first & Cause of the last. Fevers therefore consist of 3 parts Debility, Spasm & increased Action or hot Fitt. I will not

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say how Debility brings on Spasm or how Spasm brings on a hot Fit. the Continuance of each these are establi:shed by certain Laws of the Oeconomy. – the first Exertion of the Sensorium will be in encreasing the Action of ye Heart & Arteries. these will react on the Sensorium & contribute towards its Excitement which enables it at last to overcome the Resistance on ye Extremi:ties of the Arteries. the whole Cure of Fevers then consists in restoring the Energy of the Sensorium. it begins to its Reaction itself; this we prove from the Phenomena of Syncope, but a proper State of Excitement is brot on by the Action of ye Heart & Arteries.

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This finishes our proximate Cause of Fevers. we have found it consist of 3 parts Debility Spasm & hot Fitt. they all depend on each Other & succeed each Other in the Order I have mentioned. the first induces the second, & the second the last. I do not say each of these Stages we have been speaking off subsist seperately. they Otherwise all at Once and are confounded with each Other. Fevers then consist in 1 an encreased Heat, 2nd encreased pulse when they follow Horror or a Chilly Fitt. for unless they are preceded by this. they cannot belong to the Class of Pyrexia.

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The Spasm may arise from many causes on wh: the variety of Fevers depend. It may depend 1st upon Congestion i.e an Afflux of greater quantity of Fluids than can be transmitted thro' y Blood-vessels. this kind of Spasm occurs in Hæmorrhages. 2nd upon acid Matter found upon the Extremities of the nerves as in y Exanthemata. but I doubt whether Spasm takes place here. a Congestion formed & grant wh may perhaps occasion a Spasm not only in the part where y Eruption appears but all over the System. I return now to consider our first Order or what is properly called Fever.

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It is the different states of Debility, spasm & hot Fitts w: occasions the different genera of Fevers. the Duration of each paroxysm of Fever depends upon the Nature of the spasm. a Fever is seldom terminated by one Paroxysm w: depend upon the Lakes w: first induced the Fever still continuing in y System. here I must define two Terms viz: Interval & Intermission. the Interval is from y Beginning of One Fitt to y Commencement of another the Intermission from y End of One Fitt to y Beginning of Another. The Shorter the Paroxysm the Longer the Interval, & the Shorter the Interval the longer the Paroxysm. thus the Paroxysm of a Quotidian is 10 hours. of a

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Tertian 8. & of a Quartan 6 hours. I speak this at a medium. there may be ~~many~~ many Exceptions to it. there are many Causes which protract their paroxysms. thus a Fever may be protracted beyond 24 hours, & in this Case the Fever loses the name of an Intermittent. there can therefore be no Intermission if a Paroxysm continues beyond 24 hours. Our System is perpetually undergoing Changes. the vital principle in the Sensorium is always rising & falling in its Oscillations, but appears to be in its two Extremes Once at least in the 24 hours. this must be resolved into the vicissitudes of Sleeping & Waking. any Labes

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then disposing to Fever will from these Revolutions of our System be liable to induce a Return of a Fever again. hence we find they generally return at an period - thus Quotidians come on in ye morning - Tertians about noon - & Quartans in ye afternoon. Every Paroxysm then of Fever must run its Course in the 24 hours & suffer at least some Remission. unless ye Intermission intervenes in ye 24 hours they cannot occur at all, but from ye force of Habit & ye vicissitudes we spoke off the Fever goes on to be renewed every 24 hours. but this seldom happens, & therefore I believe there is no such things as Continual Fevers. -

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This I apprehend from Observation as well as from Reasoning a priori. This therefore shows the propriety of what we said before: the longer the Paroxysm the shorter the Interval & vice versa. The Continuance of a Paroxysm will depend too upon the greater or less Action of the Spasm, & this will be influenced by Debility in its different Degrees. The greater the Debility the less the Spasm - Chilly Fit - Horror - Tremor &c. This Case occurs in the Nervous or Malignant Fever, but in Intermittents the Debility is less - the Spasm more active & hence the Paroxysm becomes shorter.

Let us now consider Pyrexia as accompanied w.th Phlegmasia. here is no Debility taking place. the Spasm is generally proportioned to the Irritation. But why is not each Paroxysm in this Case terminated sooner? Because the Congestion occasioning the Spasm is not easily removed. hence all Inflammations are of the continual kind. in the Congestions preceding Haemorhages the Pyrexia always continues till the Congestion is removed. In the Congestions tending to Suppuration the Pyrexia ceases when the Fluids are effused but not before as then only y.e Congestion is removed.

Febres

The Inflammatory Spasm (for such I shall call it) differs widely from ye Inter:mittent Spasm in not being attended wth so great Horror - Frimor. The Inflam^y: Spasm is often topical, & consists in an encrandition of the Vessels near to ye place where the Congestion is formed. This Spasm communicates an Inflam^y: Diathesis to the Whole Arterial System. But in Inflammatory Fevers, the Action of the Sensorium is communicated chiefly to the Heart primarily & not to ye Arteries as in the Case of the Phlegmasia. In every Spasm there are 2 Circumstances to be con:sidered viz Constriction & Irritation.

The

The Ty: produces the last, in such a manner as to stimulate the Sensorium wh: reacts again upon the Arterial System. These are not always proportioned to each other. When the Constitution is more violent than ye Irritation the Paroxysm will be long. The Reverse Case gives shorter paroxysms. The violent Constitution arises in Inflam: Fevers. hence Intermitting Fevers when they partake of the Inflam: Diathesis are so easily changd into contin: Fevers. Every Irritation applied to the Arterial System encreases the Spasm in an equal Degree. thus Cold excites Inflam: in the Arterial System, & of such

a Degree as to be difficultly resolved. This then gives us another View of ye Reason why some Paroxysms of Fevers are longer than Others.

Here a natural Question arises. if a Pyrexia arises, tho' not from Debility or Phlegmania what shall we call it? such a Fever is excited by Cold-Bathing. But this a transitory Affection should not be admitted so as to form an Order. If ever it is permanent it is accompanied w: Lurpsine or Fever, but this being, it back to the Fevers arising from Debility or arising from Congestion being previously formed before the Body is exposed to Cold. Do not direct stimuli produce

Pyrexia? if they do it is by first exciting Congestion w: reduces it to the Phlegmasia. But what shall we say to Exercise Insolation - & various acrid Stimuli taken into the Body? I much doubt whether such Stimuli act directly in producing Fever. They produce a Debility which disposes the Body to be affected w: Fever. The Insolation acts by exciting topical Inflammation. acrid substances thrown inwardly produce general Congestions & therefore the Inflam: Spasm.

does not an undue or an inordinate Quantity of Food produce Fever? I shall answer this Question hereafter

I conclude therefore that there is no foundation for establishing a new Order of Pyrexia distinct from Debility or Congestion. a moderate Degree of Debility th: any Irritating Cause ~~to~~ induces ~~to~~ ~~leo~~ a Spasm a: irritates the Heart only & produces Inflam: Fever. &c.

I believe there are but two kinds of Spasm viz: the Inflam: Spasm & that arising from Debility alone. the Spasm in the nervous Fever dont depend on Debility alone. great Debility occurs in Intermt: Fevers. I suspect therefore that all nervous Fevers have

§ This is confirmed by an Observa-
tion of Dr. Cleghorn who tells us
2 yrs in all Intermittent Fevers we became
continual he discovered evident
Marks of Inflammn After Death.
Dr. Pringle's Dissections tend to confirm
the same Opinion. —

something of the Inflamon.? Diathesis
- most of the putrid Diseases show
us marks of Inflammation before &
after Death. this may arise from
Contagion acting as sedative & inducing
Debility & as Stimulus? & thus inducing
Inflammation. Some of them begin w.
Inflamon.? Appearances, but from repeated
paroxysms change into the nervous.
Intermittents sometimes begin w. In=
flam.? Symptoms, but as this
Inflam.? Diathesis goes off they become
more regularly intermitting. all Fevers
then of long Continuance attended with
more or less of the Inflam.? Diathesis.

Intermitting Fevers are the Only Cases where no Inflam.^n Diathesis appears. From this then we derive a very general Division of Fevers. may not Contin.^d Fevers depend on Debility alone? no — where Inflam.^n Fevers become Remitt.^g or continual it is owing to some Stimulus being applied. It may perhaps in some Cases form a Remitting Fever, but never can form a contin.^d one. It is then the Absence or Presence of the Diathesis Phlogistica that gives us the difference of Intermitting or continual Fevers. It were to be wished we could distinguish Intermittent & continual Fevers from each Other at their first

Approach. the general marks of an Intermitt.s Fever are 1.st an Epide=mic Constitution of the Year 2.nd from the greater Degree of Lapitude 3.rd from the longer Continuance of the cold Fitt 4.th from a quantity of Bile being discharged during the Fitt. this may depend upon the long Continuance of the Spasm determining the Blood to the Viscera, more especially to the Liver which promotes an encreased Secretion of Bile which we know by vomiting. 5.th from the Degree of Remission which is always longer in Continual Fevers. this mark is always

more certain when the Urine drops a latentious Sediment, as this shows that the Spasm is taken off from the Extremities. 6th from the Exacerbation w.h in Intermitt.g Fevers are always attended w.th more Horror than in Continuals. we are more surely determined that a Fever is Intermitt.g when y.e Exacerbation appears in the Morning. But if the Exacerbation happens at any other time of the day it does not follow y.t it is not intermitting. Notwithstanding all these Marks Intermittents may so far resemble continual Fevers as to change their very Nature insensibly

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that they require a very different treat=
=ment as we shall say hereafter. Let
us now enquire into ye Circumstances
wch give a Presumption of a Fever being
continual. These are 1st the Fever's
having arose from Causes of Inflam=
=mation whether Occasional or predis=
=posing. the former Causes occur in
cold Climates & Seasons. the latter
are Stimuli of all kind. to these we
may add warm weather succeeding Cold
- Irritating - high seasoned Food &c
2nd the actual Symptoms of Inflammatory
Diathesis such as a hard pulse - high

coloured Urine the worst any Sediment & sizy Blood. none of these occur for the most part in Intermittents. these Distinctions will appear of great Consequence when we come to ye Cure of these Fevers.

I admit then of but two Genera of Fevers the Continual & Intermitting. the Continual are such as are without any remarkable Remission. the Intermitt^g are such as are attended wth evident Remissions & have a Horror attending their Exacerbations. the last of these marks I grant is not very absolute or universal.

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Let us now attend to the Subdivision of these Fevers.

The Continuals I said were attended w.th Diathesis Phlogistica. But they are greatly varied by different Degrees of Debility.

Some of them are ushered in w.th this Debility - by great Stupor - Coma - vomiting - low weak & slow pulse. these are what are called by English Physicians Nervous Fevers. the slow pulse is not essential to this Fever, nor yet a moderate Degree of Heat w.th Sauvage takes in to the Character of this Fever. these marks apply however in general to all y.e Species of Typhus in Sauvage.

The frequency of Pulse when very low is Pathognomonic of the Nervous Fever & always indicates great Debility.

The Inflammatory Fevers are attended wth less Debility - less affection of the Sensorium & more of the Diathesis Phlogistica. to distinguish these from the pure Phlegmasia I shall call them Synocha.

Some Fevers are Synochous in ye Beginning & typhous in their end. - this depends upon ye Repetition of Paroxysms wch increases Debility. we find that every increased state of

Excitement ~~[illegible]~~ brings on Debility. this is evident in the Case of Sleep wch succeeds Exercise or every thing wch excites the Sensorium. - But topical Affections of ye Brain wch are produced in ye progress of Fevers may have a considerable share in inducing Debility. we ~~[illegible]~~ want a term to explain this intermediate State of Fevers between the Synocha & Typhus.

What shall we say to putrid Fevers? ~~[illegible]~~ the tendency of our Fluids to Putrefaction occurs in Inflamat.y Remitting - & Inter-

with Fevers. no Distinction of them can be taken from Putrefaction. all Fevers from increased Heat-Motion & Debility tend towards Putrefaction, but those Fevers wch are al Putrid may be distinguished from common Fevers. the putrid Contagion generally affects in such a Manner as to appear most in continual Fevers, & those too of the nervous kind from the sedative power of the Contagion. putrid Fevers likewise begin wth Inflammatry Symptoms from the Contagion's acting primarily

as a stimulus. — After a while these Fevers become nervous which may arise from a putrid Contagion multiplying itself in such a manner as to exert Sedative Effects. — They are further distinguished by great Debility dissolved Blood — Hemorrhages Petechia — high, coloured Urine — loose Stools & colliquative Sweats.

The Combination of the Inflam.ty with the nervous & putrid give the most common Genus of Fevers.

We are often at a Loss to deter-

mine whether Phlegmasia or Fever are primary Diseases. they often produce & succeed each Other. to distinguish them from one another we must 1st attend to ye Season of the Year. in the Spring the Phlegmasia is the primary Disorder. in the Fall the Fever. 2d If the Phlegmasia appears some Days after the Fever comes on I would conclude the Fever to be the primary Disease, & vice versa if the Fever comes on after the Phlegmasia. 3: Fever is distinguished from Phlegmasia by the

prevailing Symptoms of Debility which seldom or never occur in the Phlegmasia. 4th the Phlegmasia is very generally known to be a primary Disease from the common Symptoms of Inflammation.

5th Fever is distinguished by regular Exacerbations which seldom or never occur in Inflammatory Diseases.

There is Another Leaning Complication of Fever with Exanthemata. These are sometimes excited by Contagion & sometimes are the Consequence of Fever. The Petechiæ which are Effusions of Blood do not

belong to this ~~Dis~~ Order, but are always Symptomatic & are generally produced by Putrefaction. The small pox & Measles depend on Contagion introduced, & therefore do not form an Instance of the Complication we are speaking of. There are ~~other~~ warm Disputes carried on between Deshaen & some Other Physicians in Vienna concerning the exanthematous Fevers. The former supposes that they depend on ye warm Regimen only. The latter asert that they depend on Contagion in ye same Manner

as ye small pox. I do not think that they are the Offspring of Fever alone as Dr Kaen imagines. they are certainly of a contagious nature, notwithstanding they were never Observed till the last Century for many Diseases have prevailed for many Years the worst being described by Physicians. Still I allow that many Fevers by a sweating Regimen may terminate in a Milliary Eruption. but this Eruption soon changes to an opake purulent appearance like the pure Exanthemata. this Observation I grant is liable to some Exceptions. all Miliary

Eruptions are accompanied wth sweat-
ing. now we may suppose a peu-
liar state of System & Skin wch disposes to
Miliary Eruption. This is ye Case in
Child Bearing women who always
in this Country have a Miliary
Eruption when I have ~~to~~ been con-
fident no Contagion of any kind prevai-
led among them. There is an Abor tive
Fevers wch I cannot describe wch always
attends these Miliary Eruptions wch
are the Consequence of Fever. a Miliary
Eruption attends many putrid con-
tagious Fevers, but as all are not
seized wth them, & as it does not

break out always at a precise time, I imagine no miliary Ferment was introduced but y: the Eruption depends upon y: great Disposition w: this Fevers have to sweat. In this manner therefore would I compromise the Disputes at Vienna. upon the whole I am most inclined to embrace De Haen's Opinion. I dare not determine w: Fevers depend on Contagion. —

Having discussed these 3 Genera of Fevers I shall now proceed to the 4th & last Genus viz: the Profluvia. I cannot here comprehend Hæmorrhages

so universally. When a Fever occurs in Hemorrhages it is owing to something particular in certain Constitutions. I shall confine Myself then to the Profluvia. Sauvage ranks several of the ~~Cla~~ Profluvia among the Fevers which do not belong to them properly. do Catarrhs belong to the Profluvia? I shall arrange them under this Genus. The Catarrh is a Symptoma Causa. It is produced by ye same Causes wch produce Fever. They often depend upon Matter introduced into the Body as in the Measles & Other Exanthematous Fevers. These kind of Catarrhs are to

be resolved to the Genera of Fevers, but when they arise from Cold they more properly belong to the Pneumonia. all the Anginas Coughs & Phleg: are attended w: th Exanthematous Eruptions belong to the Genera of Fever or Exan: themata.

Besides all these there is a Genus of Pyrexia not yet reduced to any Order that is the Hectic Fever. this Disease suffers Exacerbations at the diurnal Periods Our Pulse is slower in the morning increases till noon, towards Evening becomes slow again & a little later becomes quick. the Hectic Fever is

increased remarkably at each of these Periods. Is there any Idiopathic Hectic Fever? not connected w: th topical Affection? no. It always arises from some topical Disease, & is never Idiopathic. Sometimes it is difficult to distinguish or point out the topical Affection, nor can we always tell how it excites a Fever when we do perceive it, but from Analogy we may conclude the Hectic Fever always to occasioned by it. Upon the whole then I conclude y: the Hectic Fever ought not to be a separate

genus of Fever. It generally depends upon an inflammatory Congestion especially when it arises from a Suppuration in the Lungs. Matter is likewise absorbed from ulcers w. we know irritates & weakens the System. & from hence arise ye Symptomatic profuse Sweats.

This finishes all I had to say concerning the General Division of Fevers.

I come now to treat of ye remote Causes of Fevers. Remote Causes

The proximate Causes of Fever we have said are Debility & Congestion.

generally speaking. for there is no Principle in any science much more Physic, but w: is liable to Exceptions.

The chief Causes of ~~Do~~ Fevers are

1 Extraneous Bodies introduced.

2 Debilitat. passions of the mind.

3: the Action of Cold.

The Introduction of foreign Matter is the most general Causes of Fever. - these Matters are either Miasmata or Contagion. the Miasmata are certain particles arising from morbid Bodies

of Men. Contagion arises from
2y Bodies of Men likewise & reproduces itself. I shall first speak of
1y Origin of Miasmata 2ly Speak of
their Diversity & 3: treat of their
Operation in Conjunction w the Other
Causes in producing Fever.
1: Origin.. Miasmata are owing
to Heat & abound most in warm
Seasons & warm Climates. they are
mostly destroyed by Cold. the Plague
always ceases to rage in cold Countries
upon the Approach of Winter. even
the Catarrhus Synochus is checked by Cold.

I conclude therefore that miasmata are produced by heat & are ye Offspring of Fermentation. they are not al: ways of a putrid nature as some suppose. the small pox depends upon a Ferment but is not a putrid Dis: ease notwithstanding. the most pow: erful Miasmata are generated ~~too~~ in Animal Bodies. Mephitic Air we know exhales constantly from Animals that breath. perhaps too Mephetic air exhales in Perspiration. now this Mephitic Air is highly Sedative,

& take off $\frac{\text{e}}{\text{y}}$ excited state of the Miasmium at once. a Diffusion of this Mephitic Air in $\frac{\text{e}}{\text{y}}$ Atmosphere tends to destroy its virulence. But if it is long retained in $\frac{\text{e}}{\text{y}}$ Cloaths & accumulated it acquires a peculiar virulence & becomes capable of affecting Animal Bodies. The Histories of Jail & Hospital Fevers tend to illustrate & confirm this Doctrine. Fevers will be greatly varied by $\frac{\text{e}}{\text{y}}$ Different Men from whence $\frac{\text{e}}{\text{y}}$ Miasmata come. by the Season of the year by $\frac{\text{e}}{\text{y}}$ Climate & by several other Circumstances of $\frac{\text{e}}{\text{y}}$ Nature.

these Miasmata multiplie them-
selves in the human Body, & produce
a Contagion capable of producing
the same Disease again. When they
become Contagion they acquire a
particular power, of affecting those
whom the Miasmata did not. But
there is another source of Miasmata
arising from all other Animal Sub-
stances. They are not always the Offspring
of Putrefaction. or the Anatomists wd
be most subject to putrid Fevers who
are so much conversant wth putrid
Animal Bodies. nor do Experiments pro-

nce putrid Fevers or ye Inhabitants
of Edinburgh wd soon be carried off
wth them. I do not think wth Dr Pringle
that the human Faces have anti-
septic powers. There is then a certain
stage only in putrefying Animal Substan-
ces in wch they can produce putrid Fevers.
Upon the whole we know of no
Exhalations but from Marshy
Ground that produces Fever. Wt is
the Nature of these Exhalations?
the Sea & Lakes send forth no morbid
Exhalations. The Inhabitants of
Egypt are never subject to the

Plague but after the Recess of the Nile. How do these Exhalations operate? I have sometimes thot merely by the Cold generated by Evaporation, but if this was ye Case Lakes & Seas w^d produce as Fevers as well as Marshy Ground. It appears rather to be owing to the semiliquid State of the Fluid retaining Miasmata in such a Manner as to suffer them to be raised by Heat. Water seems rather to destroy them. We know but little of the Nature of these Miasmata. Lancisi says they are Organised & Inorganised

many have attributed a great share to the Organized Miasmata in producing Fevers. But this is merely Hypothetical. Putrefaction we grant generates Animalculæ. but Heat & Moisture may produce morbid vapours and Animalculæ at the same time, without the latter having any share in producing Fevers. Besides we cannot suppose these Animalculæ can multiply themselves in ye human Body unless we suppose the same process to go on in the Body as first produced them. Juvenalide then all Miasmata

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2: Let us now enquire into ye Diversity of Miasmata. There is a Foundation for dividing them into Species. we see them operate uniformly on all Constitutions in all Ages & in all Climates in the same way. I do not think the Diversity of Contagions so great as Dr Lyscombe supposes. The Exanthematous Fevers show us ye: they are very much limited. all our Acquaintance w: the Diseases in all parts of ye World has yet found out but 10 different Genera of Contagion including

to Sauvage. But even this Compu=
=tation is too extensive. I think they
may be reduced to 3 or 4. But even
supposing they dont exceed 10 Genera
they are very much limited. many
Fevers supposed to be different Genera are
varied rather in Degree than kind from
the Ferments (wch arise from Animal Bodies)
being retained longer or shorter in the
Bodies it exhaled from, or from Circum=
=stances of a like Nature, by wch means
ye ~~Mean~~ Ferments are more or less
exalted to use ye Language of our Schools.
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independant of the different Degrees of Virulence in the Contagion. these Circumstances are 1 the Constitution of the patient this is most evident in the Small pox. we often see the same Matter produce very different pock in different Constitutions. the Nature of Epidemicks shew likewise how much ye Diversity of Contagions depends on ye Difference of Constitutions. Some of these Epidemicks we see affect Children only, Some men & women. while Others affect Persons of a particular Country only.

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2nd: The State of the Air varies the Operation of Miasmata. warm Air destroys the Contagion of Measles in some Measure. a Cold Air destroys the Miasmata & produce the yellow Fever. Dr. Lydenham has pointed out how much Epidemics are influenced by the different Sensible Qualities of the Air. He indeed attributes it to a Specific Difference in the Contagion but I think all y variety of his Epidemics may depend upon y Causes we have been treating off.

Dr. Cheyne Dr. Forti Lancisi
& Celius Aurelianus who wrote
in different Ages all agree in desci=
bing the Tertian Fever as y^e same
Disease & varying in y^e same Manner
by Changes in the Air & y^e Other Circum=
stances we have spoke off. in the
same Manner the Bilious Fever
appears to be y^e same Disease in
all Ages & Climates. this I prove fr
its always being produced by y^e same
Cause viz: Exhalations from Animal
Bodies or Marshy Ground. Books are
apt to mislead us in their Histories of

Epidemicks. It is but within these
100 Years that Authors have wrote
w any Precision or Accuracy on
this Subject & the more precise &
accurate they are the more we are
convinced of the restricted Number of
the Genera & Species of Fevers.

3.d We come now to enquire into
the Operation of Contagions.

Their Operation is very limited.
They dont affect Persons universally.
nor Families nor Cities. This
may be owing to several Causes such
as 1.st Contagion is not always applied

to every Body or at least in too weak a State. It is necessary Contagions should be concentrated before they can produce their Effects. In this it bears a strong Relation to Mephitic Air & Exhalations in general which always act in proportion to their Degree of Concentration. we have many proofs of this being the Case. the Plague is not communicated to an adjoining House unless there is some Intercourse by Furniture or Cloths or Something of a like Nature. Dr Lind's Treatise on Fevers & Infection is full of Facts

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of this kind. The Contagion must adhere to something in Order to concentrate it sufficiently to be propagated. Physicians seldom convey Contagion merely because they stay too short a time in their Patients Chamber to carry away any Degree of particles with them. all this tends to show the Reason why so many escape Contagious Diseases while they are prevailing. But Another Reason must be assigned why Persons escape Contagious who are exposed to it. Other powers must concur to give

the Contagion in its full force. wh:
are these powers? the Passions of
Grief & Fear are the chief. hence
all Epidemicks affect more Peo=
ple in their Beginning than after
they have continued for some time
upon y^e Acc^t: of Mankind being
more used to the Terror of them. we
see too from Persons most subject to
Epidemicks who are most afraid of y^m:
- both these Passions act by inducing
Debility. Another power is to be called
in is the Action of Cold. Dr Lind's Book
is full of proofs of this. Does ye Cold

act by inducing Debility or a Spasm?
I shall shew hereafter perhaps in both ways. Every thing else that tends to bring on Debility such as Scurvy - Inoculation - Exercise - Capital &c tends to favour the Operation of Contagion. in all Epidemics the Concurrence of these exciting Causes is necessary to promote the Operation of Contagion, & this is ye Reason why so many people escape contagious Diseases. Some Contagions I grant act independant of these exciting Causes, such as ye Small pox.

In some Cases so it is difficult to tell when the Concurrence of exciting Causes is necessary. It will often depend upon the virulence of the Contagion & the Vigour of the System to wch they are applied. It will be greatly influenced likewise by Contagions affecting the Fluids. When Contagions act as Ferments they require the Concurrence of no exciting Causes. hence the universal power of Exanthematous Contagions wch act as Ferments upon the Blood. those Ferments wch have a less assimilating power require the Assistance of the exciting Causes. Even those Contagions wch act universally

a Ferments may in some Cases require exciting Causes especially when they are not sufficiently concentrated.

3.rd Contagions are still further restricted by the Bodies being in certain Conditions capable of resisting their Operation. these Conditions occur in certain Ages - Sexes & Temperaments. a History of Epidemicks is full of proofs of this fact. the yellow Fever affects none but Foreigners. the negroes & Liming days are never subject to it. they must therefore have something in their Constitutions which resists the Operation of Contagion. some Persons too are more disposed

to particular Diseases than Others.
Thus the Inhabitants of ye West Indies
are often seized wth the Diseases of their
Climates even here in Britain.
How does the Body resist the Opera-
tion of Contagion? It may depend
1st upon a Vigour of System wch qualifies it
to resist all the Causes of Debility.
2 Upon a certain State of the Fluids fit
fitted for certain Fermentations.
One Reason why Foreigners are more
subject to ye Yellow Fever than ye Natives
may be owing to their Fluids not being
so far advanced towards Putrefaction as
the Fluids of those who have long been
exposed to the excessive Heat of ye Sun.

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3 It may depend upon ye power of habit. all Impressions have their Force weakened by Repetition. If men have a certain vigour of System to escape the expecting Causes they become so habituated to the Contagion that it requires a powerful Quantity of it to affect them. It is from this, that Physicians & Nurses are seldom affected w: contagious Diseases. May not the Reason why People are seized w: Contagious but once in their Lives be owing to ye Force of Habit, or to their nervous System being once affected w: the by Contagion? But to this we must add ye Fluids are capable of fermentation: but once.

1: It may depend upon Persons being exposed to Odors of a particular nature wch prevent the Action of Contagion. We have many Facts wch tend to confirm this Conjecture. The Influenza wch prevailed so universally in ye year 1734 never affected the People confined in the Goals of Dbn:, wch I believe was owing to their being surrounded wth Bors of a peculiar nature.

Let us now speak of ye Other Causes of Fever. Viz Fear & Cold

Fear. This act powerfully in inducing Debility. It some times produces Fever

of a permanent Nature.

Cold. You all know ye modus Operandi of this Cause. I shall only inquire whether Cold is a frequent or only Cause of Fever? From the Phaenomena of Cold Bathing it appears probable. But its Effects here are very transitory unless Fear & Surprise concur w: it. I believe it seldom produces a permanent Fever alone. For 1: in most Cases where we are sure of its Operation we see nothing but Catarrh & Rheumatism & never a proper Fever. Even in those Cases where ye Cold is suspected of acting

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alone. Other Causes may have cooperated such as Miasmital Contagion for we often see Contagions adhere very long to certain Bodies, & yet exert no Effects upon the persons who has carried them about wth them, unless they have been transferred to Other Persons or to Other Countries. Contagions are very tenacious in ye same Manner as Odors wch we know continue on Bodies for a 100 Years. now as this is ye Case the Effluvia of Animal Bodies may be accumulated in the Cloaths in such a Degree as to act at Once when the exciting Causes we shall off occur

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more especially Cold. But further all
Countries have Marshy Exhalations
at all Seasons of the Year wch may pro:
ce an Impregnation of the Air to such
a Degree as to produce ~~Fever~~ Fevers
wch we attribute to ye exciting
Causes alone. I conclude then that
Fear & Cold never or very seldom
produce Fever alone without some ex:
iting Cause joined wth them.

Are there no Other Remote Causes
of Fever? - If there are they act only
by inducing Debility. They are never
strong enough to excite Fever without the
Concurrence of Cold or Other Causes.

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But there are Other Remote Causes of Fever wch deserve to be considered viz: the Various Affections of the Stomach. the whole System is affected by the different states of this viscus. It has a powerful Connection wth the Extremities of the Arterial System where we know ye proximate Cause of Fever is seated. we see in many Cases a certain state of ye Stomach bring on Spasm & Pyrexia from Congestion. But it never brings on the Sphlogistic Diathesis, but rather Debility. hence we see it most generally brings on

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Intermitt.d. Fever. this is a very difficult Question & is some Blemish upon our Doctrine of Pepsia. I consider it however as a Remote Cause of Fever. Crapulas Indigestions & particular Foods all bring on Fever but whether they all act in One way or have something peculiar in their Operation I cannot pretend to determine. —

~~Before I proceed farther I shall~~

Let us now speak a little concerning the different Species of Fevers, & this we shall do by treating of the Nature of Epidemicks. —

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Epidemicks depend upon some matter in Diet or the Air applied to a great number of People at once. thus the Scurvy depends upon Diet, w: is a kind of Epidemick but must not be consider: ed here as it does not belong to ye Fevers. I shall likewise exclude all Fevers produced by Diet, as they are properly all of them Symptomatic.

I shall speak only of Epidemicks as arising from the Air. they may be produced either 1 by ye Sensible qualities of the Air, or 2: w^d by ye insensible qualities of the Air. Dr Wintringham

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attributes all Epidemicks to ye first Cause. Dr. Lydenham imputes them all to the last Cause. Dr Boerhaave too I think leans to Lydenham's Opinion.

The sensible Qualities of ye Air modify the Epidemicks arising from ye last Cause. The sensible Qualities of ye Air y: we shall speak off are Heat & Cold Moisture & Dryness. Heat & Cold have the chief & almost only Effects. Moisture & Dryness act by modifying the Heat & Cold by determining their Influence & varying their Operation. Heat produces the Diseases of Summer & Cold y^e Diseases of Winter. Heat joined w: th Moisture

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produces putrid Diseases. Moisture joi=
ned w^th: Cold encreases its Effects by the
Evaporation induced as Chemistry tea=
ches us. Cold by encreasing the Tension
of the Solids, gives Occasion to y^e Phlogis=
tic Diathesis, & hence Inflam^y: Disea=
ses are generally produced by Cold, &
prevail in the Winter & Spring. Heat
by relaxing the Arterial System takes
off the Inflam^y: Diathesis, & encreases
a putrid Tendency altho' it may not
of itself be able to produce a putrid Fever
w^ithout the Concurrence of Miasmata or
Contagion. By encreasing Perspiration
it makes y^e Humors acrid wch may

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dispose them to putrid Fermentations, or to be affected by their own Miasmata.

From Warmth applied long y^e Body the Bile is apt to become acrid, & to overflow in the Intestines, hence the Reason why Choleras are so frequent in the Dog-days. Is y^e Bile itself changed or is its Acrimony occasioned by Perspiration being affused to it? I do all not here determine this Question.

This Afflux of Bile into ye Intestines should not always to be considered as ye Cause of Intermittent Diseases; from w^h we said before of Intermitting Fevers it may be considered rather as an Effect than

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a Cause of Diseases. Heat suddenly
coming on stimulates the System &
thus brings on ye Inflam^n: Diathe-
sis. hence the Reason why Intermitt:
are changed into continued Fevers upon
the Approach of Summer. From all this
you see the Reason why Inflamm^y:
diseases prevail in winter & Spring
& putrid & Bilious in ye Summer &
Autumn. Heat favours ye Rise &
propagation of Contagion. Cold tends
to destroy it. & renders our Fluids
less apt to ferment wth Contagion. for
a further Acc^t: of the sensible Qualities
of the Air I would recommend to you

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Dr. Winterbottom's Epidemics but be careful to avoid embracing such notions from him as will lead you to reject the existence of Miasmata in producing Epidemics.

I go on to speak of the insensible qualities of the Air or of Miasmata. These are more important than those we have been speaking of, & affect a much greater part of mankind.

Diseases depending on Miasmata are universally Contagious notwithstanding all the Disputes that have been maintained to the contrary.

There are certain Specific Contagions which are endemic in some places & yet would

from whence they may be propagated;
But we are uncertain of their true
nature & Origin. The Small pox Mea-
sles & a few Others are of this nature.
They are of a stimulating & sedative
nature, & are disposed to unite w.th
Other Contagions. The Plague is a
specific Contagion. This I prove from
its being always Endemic in some
places. It has never reached America
nor the East Indies. It is always
peculiar to the Turkish Dominions.
It is not produced by the Customs of
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hard for in many parts of Turkey it never has been known. There are many Diseases wch resemble the Plague in having Buboes - Anthrax & Carbun: cles from wch we may suppose that ye Plague is only a diversified species of the putrid Diseases.

There are few other specific Contagions except these. The Yellow Fever however I imagine is another species. It is certainly a contagious Disease & its Symptoms are widely different from the Bilious Fever. All the other varieties of Epidemicks are to be reduced to two

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species only. such as are propagated by Contagion evident to our Investigation ~~by Contact~~ or from Fomes, or 2nd: such as depend on ye sensible qualities of the Air.

~~all~~ we shall first treat of those Epidemicks wch arise from human & marshy Effluvia. I would restrict the Effluvia wch produce Diseases among men to ye human species only as Brutes are never affected at ye same time wth it, nor are mankind affected wth the Epidemick Diseases of other Animals. we have Instances at Marseilles of Dogs licking the sores

of Persons affected w: ye Plague wth out receiving it from them.

Both these Effluvia from human Bodies & marshy Ground have 3 Effects upon ye Body 1 Sedative 2: Stimulating & 3: Septic. by the 1: they act on ye nervous System. by the 2: on the sanguiferous & by ye 3: on the Fluids. the human Miasmata are more directly Sedative & have a stimulat: power joined w: the w: makes them produce a continual Fever. the Septic powers are less evident. the Marshy Miasma is less stimulating & hence

it generally produces Intermit.t Fevers. the human Miasma gives the nervous Fever w.ch in its beginning may be inflammat.y the marshy Miasma is less sedative, or it proves so only by its septic power or by multiplying itself in the Body. the septic power is sometimes combined w.th stimulat.g & thus changes Intermittingents into continual Fevers. the Jail Fever comes from human Miasmata - the Yellow Fever arises from marshy Miasmata, & hence its putrid Disposition. - the Camp Fever comes from human - the Marsh Fever from marshy Mias.

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it is very difficult to distinguish these
Diseases from their Sources. in their
fundamental Qualities they resemble
~~the~~ One another, & according to Dr.
Pringle may be combined toge:
ther. See p.: 296 of the 4th Edition of his book.
- You will easily see from this how
much Epidemics may be varied by y.e
different Degrees of Sedative Stimulat.g or
Septic Qualities in w.ch Miasmata happen,
or by different Miasmata being combined
together. Miasmata are further varied
by the sensible Qualities of the Air, or

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by the peculiar Constitutions of Men. Some favouring the Sedative Others the Stimulating & Others Again the septic power of Miasmata. These Notions may appear theoretical, but they are founded on Facts, & will lead us to arrange Diseases in a regular Nosology as we shall see more fully in the Cure of these Diseases. I would not however push these principles w.th too much Rigour. There are one or two Contagious w.ch are of a Specific nature & are not reducible to any of these Heads. the 1st is the catarrhal Contagion. - it is disposed to associate w.th those

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Fluid &c: furnish the mucus of the Pow-Bronchial Fauces. it generally imitates & inflames the mucous Membrane of these parts & produces Anginas Catarhs & Cough. all Europe seems sensible of such Contagions from y: Frequency of Influenza's of late among mankind. I have seen 4 of them myself. Lauvauge calls it Lymocha Catarrhalis, but has overlooked many Examples of it. It has at all times been contagious. it occurred in y 1510. & several times in the two succeeding Centuries, & is described by Hoffman Wintringham & Huxham & some Others. there is no Disease

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effects so universally. the Miasmata
seem to be diffused in the Air, & propaga-
te the Disease almost without Contact, but
not so rapidly or at such a Distance as
some suppose. It generally appears
in the Winter Seasons, & has a good deal
of the Inflam.ty Diathesis joined w.th it.
— an Obstruction of Perspiration is necessary
to bring on the Disease. It sometimes
prevails w.th worst bringing on Inflamm.n
on y.e mucous glands. in these Cases it
produces miliary Efflorescences. in y.e
Summer it appears in this manner
It depend upon the warmth keeping
up the Determination to the Skin. may

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not all miliary Eruptions be the Catarrh diffirmitt modified by ye heat of Summer? w^h seems to favour of this supposition is ye most miliary Fevers are attended wth Catarrhal Symptoms. In all Cases where a whole Family is seized at One wth the word a Cold in the Air, the Concurrence of Cold & Moisture I always suspect the Operation of Contagion. - there appears to be a catarrhal Contagion always lurking About us. It is now a well established Fact that the Inhabitants of St. Kilda are all seized wth a Catarrh in a few days After a Stranger lands among them.

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There is another specific Contagion sui Generis to be spoken off viz: the Dysenteric Contagion. I believe it always arises from Marshy Effluvia but may require a certain Concurrence of a particular state of ye Bile or of the Mucous of the Intestines to produce it. we have ye most undoubted proofs of its depending upon Marshy Miasmata from Dr. Pringle & Dr. Cleghorn. It generally coincides wth the tertian Fever, or occurs at ye same season wth it. of this we have a striking Example in Cleghorn's Treatise of the Diseases of Minorca. from this

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I am indued to believe that both Diseases depend upon the common Origin or upon the same Miasmata - we find they resembled & were changed into each other, it were in a like manner both cured by ye Bark. Dr Pringle has some Observations in § 3. Ch: 6 part 2. wch tend to confirm this Opinion, altho' he seems unwilling to draw the same Conclusion from them. a late Professor at Gotingen in a Treatise de "Morbo Mucoso" wch is nothing but a Dysentery has likewise fully proved y^t the Fever & Dysentery depend upon ye same Marsh Miasmata.

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In this view therefore the Dysentery is not to be considered as a specific Contagion, nor does it subsist at all times like other Contagions, but is annually produced. This Contagion when it is turned into a Dysenteric nature however produces Dysenteries only from having undergone some Changes in the Body, & not Tertians. This finishes all I had to say upon Epidemic Contagion. I shall briefly recapitulate all y^t has been said on this subject.

The Diseases produced by ye sensible Qualities of the Air are very few. Pleurisies Peripneumonies &c are almost ye only

Diseases produced by ye sensible qualities of the Air.

Most of Epidemicks depend upon Contagions wch are Exanthematic & Catarrhal. there may be others wch w^e have escaped my Reading & Observation.

Many Epidemicks depend upon Contagions wch are Occasional, wch may be produced at all times & in all places. they arise from ye human Body & Marshy Ground.

Epidemicks may arise from either of these, or from both combined together, or from either of them or both uniting wth specific Contagions.

Epidemicks will be varied by the

sensible qualities of the air & by the different states of ye Constitutions of men. all the modifications ~~of the~~ ~~ce~~ of Miasmata & Contagion may be reduced to Sedative - stimulating & Septic powers, & all Epidemics will be varied by the greater or lesser predominance of these.

There is a curious Problem started of late years concerning Epidemics. ie that they were much more frequent in ~~some~~ former years than ~~o~~ at present. Sydenham & Morton abound wth Descriptions of Epidemics. Pringle wonders where they got them from. the Reasons of this

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arising 1st to fewer human Miasmata being generated at present than formerly from People's living less crowded together. 2nd to our Cities being kept much cleaner than formerly especially in England. 3rd People are less confined to their Houses than formerly the Paving of Streets & ye use of Carriages have invited People more Abroad of late Years. 4th the great Change in our Diet makes our Bodies less apt to generate or to receive Miasmata. Vegetables are now purchased so cheaply that poor as well as rich in some Measure live on them at present. 5th the

use of Sugar has likewise tended to diminish the Effects of human Miasmata as well as to prevent their Generation 6th Greater Attention is paid to our Jails & Hospitals than formerly from whence we know so many Contagions to be their Rise 7th the Improvements ~~of~~ in Agriculture have tended to diminish the Quantity of Marshy Ground. a very fruitful source of Miasmata! 8th We are less exposed to occasional Causes ~~of~~ than our Forefathers from the greater Compactness of our Houses. & greater plenty of Fuel among us. I tho't it of Importance to point

but these things, that we may in w: manner to proceed in checking y: Rage of Epidemic Diseases. —

Let us now consider the periodical motives of Fevers. this a subject of lessconsequence than it was formerly from our depending less upon the Operations of Nature. But still it deserves to be attended to.

we shall 1: enquire into y Facts themselves & 2: into y Reason of them.

all Physicians agree in y periodical movements of Fevers, more especially the Ancients from Hippocrates downwards. Asclepiades was y first who

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refused critical Days, or at least ye general Rules of Hippocrates wth Re-gard to quartan & Septanian Days. I believe he maintained their periodical motions notwithstanding. What Periods do Fevers observe more steadily? the Ancients agree in their Periods, altho' ye Moderns disagree about them wch is owing to their living in more ~~cold~~ northern Countries. Most of our eminent Practitioners however have believed in them, & most of them agree in certain Days. Histories of Diseases abound wth proofs of this. all negative Assertions to ye contrary are of but little weight. we shall inquire

therefore into these Days. unhappily! we have been too much led by Hippocrates in pointing them Out. who is indeed often contradictory in his Acc.t of them, w.ch may be owing to many of his works being spurious, & many of them w.ch are his own having suffered by being transcribed. Hippocrates himself too is to be suspected of being biased to Pythagoras' Harmony of Numbers w.ch may have led him to set down some things from Theory only. He was besides too apt to form general principles. in the 36.th Aph. of B. IV. he marks out w.ch is the 4.th 7.th 11.th 14.th 17.th 20.th as critical days. there is but One Difficulty in

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admitting these Days. i.e. ye Hippocrates says that critical Days occur only on the odd Days. now here we see several even Days. He says too that the Crisis of Fevers happen on Quarta or Septarian Days. But this arose from his Theoretical Notions. It is therefore left to be attended to. all Physician agree in the Days Hippocrates has pointed out. Cullen & Dr Martin who made many Observation upon critical Days both agree in general upon these Days.

2d Why are the movements of Fevers in this manner? This is a most difficult Question, but we shall attempt it. They appear to be founded upon some Law of ye Animal

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Oeconomy. the human Body is subject to diurnal Revolutions, & Are every 24 hours becomes in every Respect Alike. the ~~Fun~~ Functions by food & most from Appetites are in some Measure diurnal. the Fundamental powers of the Body are not subject to any great Variety, but are nearly ye same in all Systems. the least Deviation in any of the Functions is followed by a contrary State of the Body. thus Exercise is succeeded by Sleep, & an increased Quantity of food, by an increased Excretion of Urine & Stool. from this we see ye System has a power of preserving its ~~ow~~ own Ballance. But Farther, the human

body is greatly subject to the power of habit which determines the Degree velocity & Order of all our Actions. from this, any One Action may become periodical merely from the power of Habit. The Oeconomy is most uniform in its Beginning, hence young subject are most disposed to the power of Habit. - The human Body is besides this exposed to the Influence of several Bodies around us which are periodical, especially the Sun & Moon. the Sun more especially Operates upon our Bodies. we are sure of its Influence tho' we cannot say how its Acts. - within the Tropics the Operation of the Sun is more evidently Observed upon

the Act of his shining more directly. - the Vicissitudes of Heat & Cold. Light & Darkness. as well as ye States of ye Air are ~~less~~ more constant in those hot Climates, & hence the Sun's Action is less interrupted, & periodical Revolutions in ye System are more easily Observed in Southern than in Northern Countries. The Nervous System is the chief Seat of Habit, & I believe the Operations of Habit are confined to ye Sensorium Alone. - the Secondary Effects of Habit appear in the Other Functions, more especially in the Sanguiferous System. the Pulse is slower in ye Morning - Quicker

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at noon - is slow in ye afternoon & quicker in the Evening. for a full Acc^t of these Facts See Dr Robinson's Animal Oeconomy. I think we may confide in them, altho' his Experiments were not made wth all ye Accuracy we could wish. the Vacillations of the hectic Fevers are sufficient Demonstrations of the Truth of them. I have observed a Quickness of Pulse from 10 to 20 Clock in Hectics wch could not depend upon Diet as the Quickness of Pulse in Dr Robinson's Experiments might have done.

All Intermittents come on in the Forenoon, & generally finish then

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Paroxysm in 12 hours. these regular Exacerbations appear to be founded on the diurnal Revolutions of ye System. - But the System is disposed to regular Periods once in the 48 hours likewise from Causes wch I cannot explain. - I infer it from ye uni~~formity~~ regularity of the Tertian Fevers, wch we often see prevent^d even in continual Fevers. - Quartans depend upon a less imitation of the System as contin^d Fevers depend upon a greater or upon the Inflamator^y Diathesis. the Notion of ye Dies Impares of Hippocrates has some Foundation from ye great Disposition

wch Fevers have the Tertian Type.
Quartans never occur in the Spring
nor Summer from the Presence of them
selves from Cold & Heat. they occur only
in the Autumn when the System is
subject to less Irritation.

Nature we see then affects periodical
motions wch is evident from the Phenome-
na of Intermitt.g Fevers. we presume
these motions are present in continual Fevers wch
because contin.g Fevers are naturally
intermittent unless some stimulating
power occur wch them wch render them
continual. 2nd because their Termina-
tions happen upon regular Days wch

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connects th w: the tertian or Quartan type.
3: d they have their Incubations
& Remissions upon the critical Days
of Hippocrates they are tertians
in the Beginning, but as y e System
becomes weak they assume y e Form
of Quartans w: ch is generally About y: e
11 th day. — 4: th they have Incubations
& Remissions twice a day w: ch I believe
arises from the Influence of y e Sun.
The Attention to Indications of Cure in fevers tends
much to illustrate the Method of Cure.
To come at this I began the curious Question of
natures curing fevers — I observed the Doctrine of Con:
coction & Expulsion of morbific Matter was so exploded
as not to require a Refutation — I took notice of the Opi:
nion substituted by those who suppose fevers owing to
Spasm & the Cure depending on removing this.

The Spasm does very generally attend Fevers & often occasions the continuance of them: yet this is not always the Cause. In all Fevers there is a Condition previous to the Spasm, wch is to be considered as the Cause of the Disease & therefore the removal of this must give the Cure. — This Condition I have said consists in a certain Debility of the Sensorium or an Interruption or Resistance to its Influence, by wch the Power is not distributed equally to ye various parts of ye System. Thus in the sanguiferous System in greater Proportion than in the animal Organs being greater Proportion distributed to the Head & larger Arteries than to ye Extremities. Nature then cures Fevers by removing this Interruption or resistance to the action of the Sensorium. This is favoured by the whole Phenomena of Fevers & will plainer appear hereafter in the Means employed to remove Fevers.

This is a Doctrine that will be difficultly received: for a Debility of the System seems constantly to be going on in Fevers. Nay, the Debility is often greatest when the Disease is gone. The Debility I suppose the Foundation of Fevers, tho in some measure universal, is yet unequal; more of it in the extremities than the origin of Nerves, more in animal than vital Organs & more in the extremities of the Arterious System than in large Trunks, as I have observed. The Cure does not therefore depend alone on restoring the Vigor of the nervous Power but likewise on ye restoring

the equable Distribution of it most especialy to the extreme
Arteries. – While the Debility or Resistance remains,
the Spasm will necessarly be renewed, as it proves a Stimu-
lus to the Sensorium & to the Heart & Arteries –
We must enquire the Means by wch Nature removes this
Condition.

This is partly done by a reaction of the Sensorium
on an encreased Action of the Heart & Arteries – The first
we cannot so well explain, but the 2d is one of the chief
Means, & keeping up the Excitement of the Sensorium.
Having considered the Termination of Fevers in Health,
we must consider their Termination in Death – A dif-
ficult Problem not yet solved.

Thus here consider the General Causes of Death.

Death is the entire Abolition of the Excitement of the
Nervous Power in the Sensorium – It will be useful
to explain the Term Excitement. I suppose it understood
that the vital Principle in Animals is seated in the
nervous System & more especially in the Sensorium.
Every Function of the animal System depends on the
Nerves. –

The Activity of the Sensorium & of the nervous Power
in general depends on a subtile elastic Fluid con-
fined to the medullary Substance –

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3d. This subtile Fluid is a Portion of that Ether wd
our Philosophers now agree exists in common w^t
all Bodies. as connected w^t a State of Mixture it has
no separate Motion, & only such as are attended w^d
change of Mixture, but in certain Circumstances
it may in certain Bodies be so collected as to have
Motion communicated thro it, without Motion in the
solid Parts. - We have an Instance in Magnetism
& Electricity. This I call the excited State of the nervous
System - For this Excitement of the Sensorium does
Life consist.
Supposing such an Excitement. It is in different
Degrees in different States of ye animal Oeconomy.
It may be from the highest maniacal State to the
lowest Degree of waking Animals; below this is the
State of sleeping Animals, where Excitement is
so weak that it is not sufficient for the animal Func-
tions - A lower Degree is that of Syncope. Here the
Heart & Arteries are excited in the weakest Degree
sensible, but the Sensorium is so far excited as to be
capable of exacting & giving Action of Heart & Lungs.
A lower Degree is Asphyxia Heart & Lungs in wh are stupified, but
here as Life often returns in much, supposed so much
excitement as to be acted on by Impulse -

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When the Excitement is below this, so as not to be capable of Excitement it is Death.

We are now to say how Death is to be brought on in general.

1st It will depend on Powers destroying nervous Power excited.

2d Powers destroying the Organs on wh Excitement depends.

The 3d Means of Excitement we find to be Heat, & this is as necessary for its Support. - Cold then will have a Contrary Effect & Action in killing Animals will readily be allowed to be on the nervous Powers. Anything in fluids or Organs is to be considered as Consequences. If this is a doubtful Instance, it will be attended wt Regard to Powers. Many operate so suddenly as to give no Suspicion or Proof of Action in any Part but the nervous System.

4d The Circulation of the Blood is necessary to support this Excitement, as appears from the Effects of Stopping the Impulse of the Blood to the Brain or directing it in a greater Portion. It is most necessary in warm Animals & particularly in Man - What then interrupts the Action of the Heart, puts an End to Life - Pathologists have thought it sufficient to explain Death by shewing how the Heart stops - but in the Beginning of Life it appears that the Sensorium

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is excited previous to the Hearts Action. And we further find that by withdrawing the Energy of the Sensorium we stop the Hearts action.

The Pathologists have constantly marked the Leaving off of the Hearts Action as the Cause of Death, yet they have not determined how this operates.

Many Functions must stop with the Heart, but this does not explain the ceasing of the vital Principle.

Thus the Amphibia whose Excitements depend less on the Impulse of the Blood, this may be intercepted long without Death.

Physicians have explained it from supposing a Secretion in the Brain wh requires the Presence & Impulse of the Blood. This may be a Secretion, tho not in the Purposes of Sense & Motion. Whether what we have said is just, it reduces it at least to a simple System that Life consists in an Excitement of the Sensorium, Death in entire Abolition of this. The Causes then may be direct or indirect. Direct are the Causes immediately taking Excitement. Indirect those that destroy Organs necessary to the Excitement.

The direct

1 Sedative Passions
2 Violent Excitement
3 Certain Poisons

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4 Cold
5 Compression
6 Destruction of the Texture of the Sensorium.

As to the 1st I need not say, all reflex Sensations are stimulant or sedative. That is encreased or diminished Excitements of the Sensorium. how they operate I cannot say, tho ~~they~~ this in fact certain.

Examples of Grief destroying the System & bringing on Death.

Now evident Examples in Fear. The sudden Deaths of the Plague have been referred to Fear - This we must at least allow a ~~very~~ powerfull concurring Cause -

2d Violent Excitement - The only Explanation is that it seems to be the Nature of the Sensorium, all Exercise of its Excitement diminishes this - Hence we explain why Exercise attending Labour brings on Sleep. In ordinary Cases we can perceive this Exercise induce Sleep more or less irresistably as the Exercise has more or less violent.

All pleasant Sensations, Emotions, so are the States of Excitement that induce Debility & often Death.

It is allowed that all these tho immediately confined to the nervous System diminish Excitement. Fear has often brought on Death - Convulsions

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are a high Degree of Excitement, & always terminate in Debility or Death.
This shews then that violent Excitement may be the Cause of Death & hence the violent Excitement in Fevers may be a concurring Cause of Death.
Dr Pringle asserts in his Causes of Fevers that a few Paroxysms brought down the strongest Men so as not to stand. There are no very violent Sweats, it was the weakening Power of the Miasma remarkable in this Cases.
Debility then in Fevers must be referred considerably to the Excitement in the Paroxysms & therefore this in Fevers may induce Death.
3d Poisons — unnecessary to define the Terms exactly or say how the several Powers operate. There are Powers that evidently destroy Life, tho only received in very small Quantities. Many do this by acting solely on the nervous Power. We as evidently see this in many that they operate as sedative Powers. And when they are very suddenly fatal, we must refer it to the sedative Power in Excess.
How they operate is not explained, we must only enquire if Persons concur in the Death of Fevers.
It would appear the Cause Putrefaction in a

small Part of the System often induces Death, & the Action first appears in weakening the Power of the Sensorium. It is so much often that we would not refer it to Fluids being unfit for Secretion, but rather to a poisonous Vapour acting on the Nerves.
With regard to Miasm & Contagion we have rendered it probable that they arise from Fermentations of the Putrefactive Blood. And tho not exactly putrid, yet have somewhat of the same Virulency.
We perceive in general their sedative Effects, & tho they sometimes occasion the Reaction of the Sensorium so as to give Fever; yet often in such a Degree as to bring Death suddenly. Thus at Marseilles Death came on after the first Symptoms had appeared only two Hours. A further Analogy between Miasma, Contagion & putrid Matter appears by the Matter supplying

Putrefaction in Fevers has been referred both to the Effect of Fever & to a Putrid Ferment. In the greater Number of Putrid Fevers, the Introduction of a Ferment is the most common.
I conclude then that one of the most universal Causes of Death is a peculiar Poison that destroys the Excitement of the Sensorium.
There are 4 Cases of the Operation of this Poison.
1st It may depend on the State of the Person accompanying the Miasma & Contagion.

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2d When the Poison is in the Miasmata or Contagion, tho it is not in sufficient Quantity to give Death, yet conversing with a violent Excitement may kill in a few Paroxysms.
3d When in neither Cases it would kill, yet by being multiplied by Fermentation they encrease so in Quantity as to give the Effects.
4th When neither of the three happen, but as a Ferment produces such a Dissolution of the Blood, the sedative power so relaxes the Vessels as to occasion
these become fluid & then are a sufficient Cause.
The last is the most common & universal Cause in Fevers, examine the various Histories of the malignant & putrid Fevers & you will see very generally some Sphacelus or Mortification.
4th Operation of Cold - I spoke of it before, and is an Effect of nor is the --
5th Compression - I need not say that Compression of the Sensorium not only occasions Stetion but may give sudden Death - but tis seldom the Natural Effect of Fevers the Appearance of Apoplexy & occur frequently, but we shall endeavour to shew
rather than Compression of the Sensorium.
6th Destruction of the Texture of the Sensorium. This from the encreased Impetuosity in Fevers & Delicacy of the Brain has been frequently supposed. We do not however know the Operation or Signs of it. I would doubt

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& I would not allow it a common cause.

Considerable topical Affections of the Brain often subsist long wth Life. - in small Lasions that give Death, it is to be attributed perhaps rather to ye violent Excitement & Irritation, than the Destruction of Texture.

Boerhaave thus explains Death in Fevers & Van Swieten endeavours to support it by reasoning - but they are both wrong. - Its a Supposition of extreme Vessels being found but greater in Proportion than the Trunks wch is directly contradicted by Dr Winthringhams Experiments.

Again he supposes a dentor of the Fluids wch by encreased Impulse clogs up the Vessels, yet he in other Places refers them rather to an Affection of Impetum faciens.

Of these direct Causes then, two only seem to operate in Fevers viz Violent Excitement & Poisons.

The last may operate by being alone, or with miasm^ta & Contagion or by Putrefaction in Consequence of topical Effusion.

I did not think it necessary to speak of the Mors senilis.

The other Causes are such as tend to an entire Abolition of Excitement. They are direct or indirect.

The Direct may be referred to 6 Heads. As to the last the Destruction of the Texture of the Brain, Dr Simpson would not allow it as he endeavours to shew that animals might live without Brain; but he pushes it too far.

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The Causes taking place Fevers perhaps may be reduced to Poisons or violent Excitements.
The Indirect act on the Organs necessary for Circulation — the Causes interrupting it are more remote or direct. The more remote are stopping the supply of Chyle; hence cutting the thoracic Duct is certainly fatal. More direct are Evacuations excessive. more immediate still are Erosions of the Heart. next obstruction to the Heart as Polypi in. The Causes interrupting Passage thro the Lungs are numerous — those connected with Fever, only are perhaps Inflammation of the Lungs by the consequent Effusion. All these act only by preventing the Impetus of the Blood & therefore take off Excitement.
In Fevers a stimulant sedative & septic Power occurs — any one in Excess may give Death.
Stimulant Power gives greater spasm & encreases the Excitement. The Stimulants besides may occasion particular Effusions & thereby in the Lungs suffocate or in other Parts give rise to a putrid Poison.
The Sedative concurring w other Causes may kill or it may be sufficient alone or may be rendered sufficient by multiplication a by occasioning Effusion give Rise to Putrefaction.
The septic Ferment may act as sedative & by inducing a putrid State may give a more fatal Poison.
This Connection ~~wg~~ of — — the Causes inducing Death in Fevers & the Causes originally supposed to take

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placed in Fevers appears too in the Principle genera of Inflammatory nervous & putrid.
Here is a Foundation for Prognostics; let us find if the Symptoms importing Danger are reconcilable to the Doctrine of Causes. I shall enumerate the Symptoms as belonging to the Stimulant, sedative & septic Powers. We shall see how the Experience of Ages agrees wth our Causes.
The Prevalence of Stimulant Power & its chief Effect the Phlogiston, Diathesis & a Consequence of this Spasm is expressed by the State of the Pulse & of the Heat of the Body.
By the State of the Pulse as more frequent. This it may be said is often from Weakness; but when with any Degree of Hardness or Fullness it is a Mark of Stimulus & Irritation.
Besides Frequency & Celerity of each Stroke may be taken in as a Sign of Stimulus. In most Pulses not above 100 I can observe the Celerity of each Pulse accompanying the Frequency of their Repetition.

That cannot be perceived.

Frequent Pulse from Irritation is inferred from Hardness. This becomes ambiguous often from weakness; but this well arised from the Tension & therefore Excepting in very violent Contagion, a small Pulse is often a Mark of Irritation. Hence after Bleeding often makes it fuller & softer.
2 Heat has been reckoned a Mark of Putrefaction,

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but only as the fluid is connected wth a Stimulant ~
Heat coincides surprisingly with the State of ye Sanguiferous System & therefore Heat shows ye Presence of Stimulus
The more subtile Distinction of a later I am
not certain of – The Heat is expressed first on the State
of the Tongue as more or less covered with Fur. To pre:
serve the Tongue fit for Taste, there is a moist exhalation
of a Fluid wch leaves on Evaporation a thicker Part – In
Hectics & Children the Fluids are so thin as not to give
a Sediment but this always happens more or less in Acute,
and when the Heat of Fevers exhales more than is over
mucous Sediment – it goes so far as to give a dry Crust.
Why it changes Colour we cannot explain.
& Heat is expressed by thirst from the Mouth & Fauces
burning every day – But Heat is not the only Cause of Thirst
thus Spasm in a Cold Fit, Putrid Matter in the Stomach.
Dryness & Heat too are connected on the Surface of the
Body
3^d Scanty high coloured urine – This is a Sign of Heat
& of the Determination at least of Respiration to y^e
Skin. Perhaps the Heat occasions the Blood to part
with more of the colouring Parts of Urine.
The Absence of Remission – I have endeavoured to shew
that the Protraction of Paroxysms depend on Stimulant
Powers. But this Stimulus may be combined with
Debility & Septic, & when these act we shall find the

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symptoms of the Stimulus proportionally lessend.
The Inflammatory Fever from violent Excitement may be dangerous, yet it is the safest Fever when not attended with topical Affection. The Inflammatory State only becomes dangerous perhaps when there is Determination to the internal Parts. I cannot help illustrating this by the Safeness of the Rheumatism, where the Determination is to the external Parts. A Practitioner of 40 Years said he never saw Death from the rheumatic Fever. In 30 Years I never saw it, except when ending in a Topical Determination. These Determinations I refer to 3 Heads.

1 Determination to the Brain
2 — — to the Lungs
3 — — to the abdominal Viscera.

As to the 1st it arises from the laws of Circulation. — in the encreased Action of the Heart & Arteries — must without topical Causes necessarily take place to the Head; & is found in the

Sweating in Consequence of this Determination appears first on the Face & perhaps Exanthemata.
The Determination is discovered by an unusual Pulsation of the temporal Artery, a Turgescence of the Face, protuberant & inflamed Eyes — encreased Sensibility of sight & — Violence of Head ach: Constant Watching, Violence of Delirium.

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These are not ambiguous as regard to Cause, except Delirium - This is to be distinguished by the Mode of Delirium, being its being attended with greater Rapidity of Thought, by Impetuosity of Emotion & Passion. Where these concur with other Symptoms, I take it as a Mark of encreased Impetus of the Blood to the Head.

The Congestion is generally the Cause of Inflammatory Spasm; yet the Impetus encreased may give the Congestion - hence Phrenitis may arise - Therefore an Irritation fixed to the most tender Part.

2. Determination to the Lungs - From their Nature & Function every encreased Velocity of the Blood must especially be felt there as as much cannot pass thro them as thro the whole System.

But then they are exposed to the Air; from both which Peripneumony is the most common Inflammation

The encreased Velocity in the Lungs gives difficult Respiration. The intercostal Muscles are taken in often & shews it more laborious. But often too all the Muscles are employed that can move the Ribs - A difficult Respiration then will express a particular determination to the Lungs. - The same is expressed by the Decubitus difficilis. Tho this may arise from Affection of the other Viscera yet in general it happens from the Lungs.

It will be more fully expressed by Pain of the Thorax, Cough & more Certainty of Cough is attended with catarrhal Symptoms. The strongest Degree of Inflaction is expressed by a Turgescence of Countenance, of a more bloated kind

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Appearance Thirdly determinations to the Brain –
3d The Determination to other internal Parts, tho not vital, yet as giving Irritation from Congestion, & especially as these Viscera are liable to Effusions, wh from Suppuration or Putrefaction may bring on Death, hence topical Affections of the abdomen are dangerous.
Often detected only by Dissections but in general are to be inferred 1st from Vomiting. This may arise from a certain State of the Ventriculum or Intestines, but when not to be suppressed by saline Draughts or Opiates, it is a Symptom of inflamed Viscera – more certainly of a Painful Tension of the Abdomen, as happens in Intermittents or continueds from this. As such Fevers were chiefly objects of the Antients Practice, so they speak most of Inflammations of the Liver, Spleen &c. Tension then in general & Inflammation may be marks of topical Determination to the abdominal Viscera more certainly if there is topical Pain –
The Excess of Stimulus becomes more dangerous as combined w.th Sedatives or Septic Powers, as it not only invents its own Effects, but as it aggravates the Effect of Causes by increasing the Tenacity of Spasm & giving the Effusion that may be less Dangerous –
The Prevalence of Sedative Power may depend on various Causes.
1st As the Person is weak from Evacuation, Disease, Grief watching &c
2. on the Powers of the Miasm & Contagion

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3d As with (2) the Concurrence of Fear & Despair - The Presence of these are often the Marks of the Strength of the Cause, but without this Timidity may conclude
4th Repetition of Paroxysms
5th Excessive Evacuation -
6th In Consequence of the Cause being encreased by Multiplication.
7th A Particular Generation of Putrid Matter.
Shall mention the Signs of Debility in the 3 Sets of Functions. - vital, natural & Animal.

the Symptoms as arising in the several Functions.
In animal as they affect voluntary Motion. Debility appears from a considerable Lassitude & Sense of Debility preceding the more formal Attack of the Disorder.
In the Attack it appears more by the loss of muscular strength
At first the Debility of muscular Strength amounts to the Difficulty of keeping on ye Legs. he at first can support himself in a sitting Posture further on he cannot bear this - he lies along, when few Muscles are employed in lying abed we see the Progress of the muscular Debility, in the Facility wth wh he turns. At last he cannot turn except by the Assistance of a Bystander, & even here we may desire him to contribute more or less - lies at last on one side & further can only lie on his Back. further if the Bed declines he cannot support himself from sliding down. goes forth when he exerts himself by erecting his hands to prevent

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sliding down.
The weakness is further expressed by this, that every Effort of muscular Action is attended wth Tremor, the certain Sign of considerable Atonia - not so mortal when affecting whole Limbs: but if confined to small Parts as the Tongue over w^h we have more Command, it is worse. Still more when the Motion of the Eye-Lids are attended wth Spasm - When they are connivent in Squinting appears when the Ball turns up, & the Eye Ld does not, even from the long Habit, follow it. - Convulsions express great Debility, w^h are as much the Effect of this as Irritation. - Accordingly all mortal Fevers have convulsions at the last. In Hemorhages, tho the last Effects are expressed by Convulsions - These Symptoms exasperated are expressive of the weakening Cause of Fevers. Next in Sense & Thought. The particular Symptom here is the Tone of the Mind. Dejection & Despair either in Sentiments or Countenance. A certain Tone of Mind attends a certain State of Body. one is attended with Chearfullness & Hope, Courage & Alacrity; another wth Sadness, Temerity & Despair. From a Number of Instances in w^h they recover, we can say they are nearly as the rule over of the Sensorium. - It applies too pretty generally to the Sign of the System in general. Dejection then & Despair arising from the Disease in Persons of Hope & Courage give great Marks of Debility. -

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If expressed in the Countenance the ostensible Sentiments we may suppose the same State of the Sensorium.
In a Person of Health the Eye is open, is directed to a particular Object steadily & is directed to a Diversity with a Rapidity as quick as thought. There is a certain Agility in the Muscles of the Face too. Debility then occurs when the Eye scarcely opens when it wanders languidly when loose in its Attention - When the Muscles are lax & expressive of Despair. - D'Lind takes his chief Prognostic from the Expression of the Countenance. The rest of the Symptoms of Sense & Thought express rather the resistance to ye Action of the Sensorium. Thus it appears in a Contusion of the Head, when Recollection is not easy, & the Mind does not pass from one Idea to its usual Associate, proceeding at last to almost a Loss of Memory. Thus we must suppose to depend on an Interruption of the Motions one & these all probably depend.
The Resistance appears when the Ideas are incoherent. This is the State of Delirium. It might be proved that all Incoherence of Thought depended on an unequal Excitement of the Sensorium. - We may suppose it to arise from Absence of Excitement on one Part, or the unequal Excitement in one. Excitement appears to depend on the Action of the Heart & Arteries most; but this encreased does not give Delirium except Resistance in one Part.

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On this Supposition it may be of a Sort –
Resistance may not be very great, & yet great Impetus
excite Delirium. If Impetus not very great & yet
Resistance very great Part, Incoherence may arise –
Then Delirium appears without great Impetus;
Then with the Symptoms of Debility – When the Inco:
herence of Thought is not rapid & attended w violent
Emotions. All these Symptoms I take as Marks of Deb:
ility or Resistance in some Part of the Sensorium.
It will appear more when it is connected with a State
of Sleep. The ordinary Impetus in unequal Excit:
ement is sufficient to give Delirium. Thus every
Man more or less determines in going to or coming
from Sleep. – Certain Associations are so constant
& long established as to remain w some Delirium.
If these then are interrupted, greater signs of resistance,
Thus the forgetting Drink when called for – or evacu:
ating Excretions without calling for the Instru:
ments usually requires. All unconsci:
ous Excretions then are a very bad Sign. That is
when evacuated in the usual Way, & from paralysis
of Sphincters. – Insensibility to Thirst, when
Heat & other Causes subsist is a great Mark of In:
terruption to the Functions of the Sensorium.
It goes further when the Insensibility of the other
Senses takes Place; as Tactus Visus or Loss of Sight.

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the most ordinary Instance of this false Vision, is when he endeavours to remove false Objects on the Bed Cloaths from him. - Still further when a State of Sleep comes on. - Sleep in Fevers is not reckoned a bad Symptom of the Sleep is natural. but we distinguish between Sleep & Coma. Coma is Sleep in a higher Degree than Natural. -

Sleep in Healthy Persons may be from Compression or a Collapse or Sinking of Excitement.

That the Coma of Fevers depends on the latter is evident from its appearing in the natural Way & only arising to a greater Degree of Sleep. This these Degrees I reckon it only an Excess of the same Nature from the Quickness of Recovery wh often happens. Compressions from Effusions &c are seldom so soon removed as not to leave some Effect.

In the Vital Functions of Circulation, we first mention as a Mark of the weak Action of ye Heart, when it cannot bear the Action of Gravity in the Blood & therefore not propell the Blood in an erect Posture so as to keep up its Action & excite the Brain This might be reckoned an Affect of the animal Functions, but when Giddiness is preceded by Tinnitus aurium. I consider it as a Symptom of weakness of Heart. - Less Ambiguity in the Pulse - Great frequency is a mark of that Debility of ye Heart, when

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it does not evacuate itself & therefore is soon filled and irritated to Contraction.
We said Frequency was also a mark of Irritation; but we may especially reckon it from Debility, where it is weak, more if irregular, & further if concurring with the Symptoms of Debility.
We have an Instance of Debility too in Slowness of Pulse sometimes.
This is difficult to explain - we can say that When the Pulse is slow in proportion to the Affection of the Sensorium. - We may reckon it a Mark of Weakness. It is a Sign that the Energy of the Sensorium is not excited towards the Heart - This will explain the Slowness of the Pulse in nervous Fevers where the Sensorium seems evidently affected -
Heat when lower in Proportion than would be expected from a feverish State, it is a certain Sign of weak Action of the Heart in Consequence of weak Energy of the Sensorium.
We may explain animal Heat variously, but it is somehow connected wt a certain Action of the Heart & Arteries - Debility appears in the Lungs when respiration is small - i.e, when the Contraction of the Diaphragm is not exerted with sufficient Tone & Extent. When neither this or Intercostals are able to dilate the Thorax sufficiently

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becomes extremely frequent; thus if a Person on speaking a little, taking a Drink or moving himself, is affected with very frequent Respiration, it is a Mark of Debility. Laborious Respiration is in very different Degrees the mark of Debility - We labour some when we take in the Sounds: mortals. Still further Debility when we require the Muscles between the Scapula & Ribs. And a fixed Point must be given that they may act. When their Head is stretched or Scapula raised, it is a mark of great Debility - Still more when we take in the feeble Assistance of the Prong Nerium to impel as it were the Air into the Lungs.

In this Subject we must add the Change in the Tone of the Viscera

The Tone of the ~~Viscera~~ Voice depends on the Organs of Respiration being so far under Command as to push the Air as the Expression of Sounds require - When the Muscles of the Glottis, when Health we govern with great accuracy, shew Debility it is a remarkable Sign & still more when it arises to a perfect Aphonia -

Besides these Symptoms when the Heart does not propel the Blood to the Extremities so as to be cold, it is a great Mark of Debility. When Colour fails in the Eyes & Face it is a great Mark of weak Circulation - still more if besides Change of Colour, there is a Shrinking of the Face, the Hollow Eyes, Cheeks & other Signs of the facies

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Hippocratica.
In the natural Functions of Appetite & Excretion we must consider the Symptoms without examining the Connection of the Stomach & Sensorium. It's a fact of Vomiting as a Mark of Debility and since so frequently attends Deliquium Animi. If the State of the Sensorium depends on the Impulse of the Blood in the carotid Arteries we may readily explain the Want of Appetite. We might explain this Want of Appetite otherwise, but in general it's a mark of Debility as it often proceeds in proportion to the Symptoms of Debility.
In the Excretions The outlets of ye Oeconomy for certain purposes are provided with certain Sphincters that do not open except on necessary Evacuations, when this Constriction is abolished it's a great Mark of Debility; The Difficulty of Deglutition is a considerable Mark. You may enumerate many other Symptoms of Debility. I have mentioned enough for you to judge of the Strength of the sedative Causes of ye Danger. I must add that all these Marks are more dangerous when connected with a stimulant Power. When this happens appears from considerable Sensibility at the Beginning of a Disease; While Marks of Irritation in ye Corpse are not so prevalent. Interrupted Sleep, Languor & Drowsiness shew Marks of Debility, but when they are interrupted it's a Sign of Irritation. Still more

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When there happens watching for Nights & days - The Irritation is expressed when without violent Emotions, there is constant Restlessness & desire to get out of Bed - When Decorum is quite destroyed, there is often a Convulsive Manuum joined to the Impatience of getting out of Bed, wh is a mark of some Irritation. - A great Frequency of a weak contracted Pulse will be a mark of Debility but is especially a Mark of Irritation subsisting w great Debility. - When Spasm subsists w great Debility, a Mark of Irritation - hence Limpid Urine in Fevers is generally a Mark of Irritation - Convulsive Motions often occur in Irritation w Debility as

Subsultus Tendinum.

When we consider how often Miasmata & Contagion are connected w Putrefaction & how often they have more or less of Septic Ferment.

We shall think that the Poison of Fevers is confined almost entirely on that of the Putrid Kind, as would not entirely refer to this, tho no there greater danger than in those Cases where Tendency to Putrefaction appears. The Tendency to Putrefaction is expressed first by Nausea & Thirst. The Presence of putrid Matter in the Stomach is attended w Nausea - When no Putrid Matter is thrown in, or any Reason to expect that the Matter have become so, yet if very considerable Nausea we may suspect a Tendency to Putrefaction - Even vegetable Matters may

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become putrid, & therefore is such Nausea caused for taking off all Appetite for Food, & giving great Thirst that Drink may be taken in to dilute the Putrid Matter & promote its Expulsion by Emunctories. Hence great Thirst a Sign of Putrefaction. These are ambiguous, — more certain and offensive Tastes in the Mouth. & Fœtor of Breath may be a very strong Mark. —
Thirst we may distinguish it in the Color of Urine — high coloured Urine we said attended Stimulus, but a difference between this & that peculiar to Putrefaction. The latter is not the high coloured brown but has more red & generally turbid.
Frequency of loose Stools if these are very fœtid. various Causes of Diarrhœa in Fevers but especially from acrid Bile in the Intestines. It appears that Bile is thrown in great Quantity on the Intestines especially in putrid Fevers.
It is most disposed perhaps to the Putrefaction of our Fluids. however it be certain it is, that it accompanies the Marks of Putrefaction & is favoured by Stagnation in the Intestines.
More certain Marks are the Dissolution of the Blood — When by cooling it becomes a Gelatinous Mass, without the usual Separation of Crassamentum & Serum. This is hardly to be influenced by the manner of drawing

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therefore when appearing much, it is a Mark of the
lymph having lost some Power of correcting & this the
Consequence of Putrefaction.
When the Coagulum is formed the Matter may be
doubtful, but the Colour of the Serum has influenced
if the Globules are to be dissolved in Serum as to give
the Appearance of the Lotura Carnium. It is a mark
even without this, a yellow Colour is a sign of Putrefaction
the Yellow arises from this, or from a cadaveraption of
Bile. When one Cause wh could give Rise to this Cada-
ption, it must be I think referred to the other Causes
cases where the Matter is more ambiguous are those
that have an Inflammatory Buff. This has been ge-
nerally referred to an Inflammatory State, tho the
theory is false, for in the Scurvy & other Diseases of
Acid Dissolution this has appeared. It is not then a
negative to Putrefaction & besides it does not appear such
a Concretion as that in the pure Inflammatory.
I have seen the lymph separate but it was
between it & the Globules was a gelatinous Mass
tho in less Quantity than in the pure Inflam-
matory. We may still more certainly determine
Dissolution if the subjacent Globules are Colourless
diffusible.

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In Consequence of this Dissolution Hemorrhages are received a Mark of Putrefaction. Partly is this owing to a certain Atonia taking place in the Vessels at the same time. The Effusions appear in different Shapes. In Women by the Catamenia appearing before the usual Period. Urine discovers itself by a very dark red, & often a subsiding to the Bottom. The Nose is subject to Hemorrhagy. This a mark of Putrefaction when without Cause or Inflammatory Congestion evident. Corners of the Eyes & even Pores of the Skin have sweated out Blood. Blood from various Circumstances poured into the Alimentary Canal, more or less fluid as it rendered by Vomit or Stool.

It is a mark too when the Blood is effused into the Cellular Membrane & the rete mucosum. In a moderate Degree it produces the Petechiæ so much spoken of lately. Death with regard to their Appearance. In the latter kind of a Disorder they may not only depend on Dissolution, but also on relaxation of the vessels. Hence may perhaps prove critical. They may be more innocent at least when appearing late & without much Marks of Putrefaction in the first Cause. If occurring at first they give Sign of the Atonia brought on by the Strength of Putrefaction. More Dangerous as declining from the fluid Colour. & still worse when so considerable as to form Maculæ & Vibices.

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Also the Dissolution appears when the Vessels are relaxed so as not to pour out red Globules but the Serum, & gives the yellow or yellow Fever. It is not Bile from the Arguments given just now, & especially from the very great Marks of Putrefaction in this Fever. - Yellow Effusions are likewise in the Bilious Fever of the West Indies, but the marsh Fevers of more northern Climates. These are of the same Kind only in the last comes on later & therefore as being more from Relaxation than Dissolution may prove critical.

The Fator of Effusions gives a Mark. Thus the Fator from Discharges of the Skin, fatid sweats. I cannot well distinguish the various Odours of but offensive Odours in sweat & Perspiration are often Forerunners of Death Authors distinguish under the Fetid of Cadaverous Odour. It occurs often some Days before Death & is a very certain Sign of its approach. This putrid State may be combined wth an inflammatory or stimulant & especially at the last, with a State of Debility or sedative.

We have now gone over the Symptoms of Fevers arranged as they express Irritation, Debility or Putrefaction. I conclude this Subject of Prog. nos. tically observing that there is generally a Concurrence of these Powers, & their Degree must determine our Prediction.

This leads us next to the Method of Cure we cannot

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give a Method as applicable to particular Species, as we have not ascertained them. We shall only give a generic Cure as applicable to Genera - In all Nature while there is Uniformity in Principles, yet this each particular they an such subtile Differences as often escape us. - Our Conduct must be regulated by generalizing our Views - our Method perhaps will apply however to Differences of Species & Varieties of Varieties - for if we had entered on th, we should chiefly insisted upon the Difficulty of establishing & the Limits to be observed - Whatwe have said of the Causes & Prognostics lays a Foundation for the Method of Cure - Our Causes agree wt the generally established Genera of Fevers, of Inflammatory, nervous & putrid.

My Plan of Cure is to be reduced to the 3 general Indications corresponding to the Causes of their Genera as Stimulant, Sedative & septic Power prevailing -

1st To take off Excess of Spasm.

2d To restore Vigor of the Sensorium, especialy the equable Distribution of the nervous Power

3d To obviate Putrefaction -

The Part of our System will be confirmed from our finding the most confirmed Remedies arrange themselves under these Heads -

1st To obviate the Excess of Spasm we employ

1st The antiphlogistic Regimen, consisting in the

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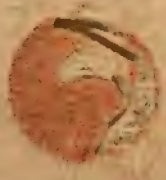
moderating their Irritations that are constantly & unavoid-
ably applied to the System, & at the same Time amending
every other Irritation within or without -
2d. Remedies suited to take off Phlogistic Tension - viz Bleed &
Purging (considered as an Evacuation) & the Medicins called
Antiphlogistics.
3 To restore Vigor of Sensorium &c -
For this Purpose we employ Diluents, Neutrals, Sudorifics,
Emetics, Blisters, warm Bathing, cold Drinks & cold Bathing,
Cordials, Antispasmodics & Topics. I have chosen single
Terms. What has been meant under each will appear
hereafter -
II To obviate Putrefaction we employ certain Means
of withdrawing the Forces, antiseptics, & Tonics. Let us
consider them particularly & 1st. Antiphlogistic Regimen
so called because most suited to the Cases where Phlogistic
Diathesis takes Place -
It consists in avoiding all Irritation - This Attention is
indicated in all Fevers. Certainly in all States of a
Fever where any hot fit yet subsists - yet making this
universal is wrong - For as Fevers arise cause of fomite:
bality, it will appear that seeming Irritations are propu-
lsive are Ambiguity, & indeed will seldom occur at first.
However in the later Stages too we shall find that the Pre-
sence of an Inflammatory State on any render the avoiding
this necessary -
In cases of sedative & Septic Poisons, this [illegible] doubtful



especially with Stimulants applied to the Sensorium only appear allowable. But wherein Spasm exists perhaps Stimulants are hurtful. All the Cases I can find where Stimulants are proper are attended w'th little or no Spasm. In Cold Fits of Fevers they may be admissible if we can prevent the Approach before the Spasm is formed; but here no Spasm is present. In Intermittents after Paroxysm is come on, every Stimulus Tends to lengthen the Fit. & are serviceable only in Intermissions. Another case or may be in Continued Fevers. In the latter Case Ambiguity for the Inflammatory Congestion may be where we do not readily perceive it. We conclude therefore that Stimulants are not admissible as long as the Hot Fit remains.

The Particulars of Antiphlogistic Regimen are

1st To avoid Sensations & hence avoid Light & Noise but more especially so we avoid Impressions & Sensations that occasion Exertion of Thought. But thinking is difficultly avoided & extremely difficult especially in the Beginning of Delirium. This Consideration gives me a Doubt with regard to the general Rule of avoiding Impressions. For in the rambling Thoughts of Delirious Persons I think I have found Light & Noise necessary to bring back our ordinary Train. This is more necessary when y' Delirium is accompanied with violent Emotions. I have frequently put off a Tendency to Delirium by having Light or a Companion put off the Sensations from external Impressions.

2d The avoiding Bodily Motion — Motion of all kinds

an Invitation to the Tensorium: but if we consider
how much the Tension of Muscles is connected, the Exertion
of Muscles influence the Tension of the whole System
Fibres not attended to. - I think that our Views in Bleeding
are often frustrated by keeping the Body in a Posture
when many Muscles are in Action - Hence the Advan-
tages of Bleeding in a declining Posture, not enough
considered - the least muscular Action is excited when we
lie on the Back - but this is not eligible, as it retards
the Return of the Blood to the Head. - The Head then should
be raised & the Tendency to slide down may be obviated
by raising the Feet, provided this can be done without
throwing the Head especially in Motion to be avoided
lest accompanied with Tremor or Deliquium.

The avoiding Heat & Cold — You are doubtless well
apprised of the great Powers of Heat & Cold on animal
Economy - that they may be Potentiae nocentes or use-
ful Remedies, but have that the Transition from one to
other takes Place by very slender Changes in degree or
circumstances. The Attention to these difficult are this
Season does not depend so much on their Intensity &
Force as on the relative State of the Body. - I have en-
deavoured to bring out the Principles on this Subject -
we said that supposing human in the most perfect
state, etc, allowing for Climate nearly at 98
his Temperature of Body would not subsist without the

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Medium surrounding it is cooler. Whatever Exceptions the Fact is very general. The supposing the Heat of the Body must depend on the Heat of the External Air or the Temperature of the Air wh is best adapted to preserve this Heat of the Body in our Climate is 62°
When above 62 the Body feels hot, when under it cold.
To determine their Effects in Fevers. Physicians have observed that a certain Heat was hurtful, but this not sufficiently ascertained. Dr Sydenham perhaps first observed that Rheumatisms & other Inflammations were aggravated by a Certain Heat. And his Observations shew that such Heat proves a Considerable Irritation & therefore hurtful in Disorders of the Inflammatory Kind. It appears that in such Cases a Degree of Cold less than 62° is useful. The Question is to determine the limits of this.
When Diathesis Phlogistica are evident, there is no Danger of applying Cold considerably below 62°. This is a Case in wh the Effect is as much determined by the Condition of the Subject as by the Intensity. Here appears that Vigor wh renders People less affected by Cold & by its generating greater Heat makes a Temperature lower than the Standard necessary.
In the small Pox it now appears that a Considerable Cold is allowable. I explain it from the Contagion of the small Pox having great Stimulus, & accordingly after the Eruption the Fever brought on in Consequence

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of that Irritation inducing - Death or is Phlogistical.
Whenever perhaps there is a hot Fit fully formed, the Body as encreased in Heat perhaps requires more Cold than 62d - Cold then is useful in some Cases, & at least in all Fevers every Degree of Heat above 62° is hurtful.
The Cases in wh Cold may be hurtful, are when Spasm is not yet formed a Hot Fit come on - The Body then is in that State of debility that particularly favours the Action of Cold. When therefore Fevers approach very gradually & with great Debility, the Exposure to Cold gives greater Debility & more dangerous Spasm.
At this Time Heat by preventing the Sinking of the Sensorium & bracing the Constriction of the extreme Vessels may be useful.
When in formed Fever the Sedative prevails & there is danger of the Sensorium sinking in extreme Degree. When in Fever it is necessary at the first attack to force sweats Cold is dangerous & Heat is useful.
This usefulness of Heat will appear to you contradictory to the universality of anti-phlogistic Regimen. I will apart that all general Stimuli are hurtful, but shall make Exceptions in favour of Stimuli that act partially. Thus Heat acts principally on y extreme Vessels - relaxes them & gives Rise to y encreased Exertion of nervous Power.
In critical sweats Heat is admissible. this is confirmed

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by universal Experience; but not easy for Practitioners to apply the Rule. Difficult to determine when Sweats are critical. When Sweats are attended with more softness & fullness of Pulse with less frequency. When the flowing of Sweat is attended wth Relief of Head Thirst Headach, Delirium, Restlessness & difficult Respiration & with Sleep. There is no Doubt but such Sweats are Critical; but that Cold would be hurtful by suppressing it & that a greater Heat of Body may be admissible but there are Colliquative Sweats in wch Heat is Hurtful. Certain Sweats are salutary if not urged by external Heat; & so often prove hurtful.

Heat by being pushed too far may encrease the hot Fit, hence occasions topical determination & therefore the Management of Heat extremely difficult.

Critical Sweats then, & certain contagious Decoi: ders wch we shall mention; are the only Cases of continued Fevers that admit Heat.

In Intermittents there is both Hot Fit & Recession In the latter Heat admissible; in the former it is so soon to terminate in Sweat that we would not apply Cold.

6th Stimulant Aliment.

Mead. The Action of the Stomach proves stimulant & system. And hence a frequency of Pulse attends the first Operation of Digestion. Food then is always stimulant. Abstinence then in Fevers is extremely necessary. but as we cannot refrain from some Food, we

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must at least ~~and~~ to chewe that of greatest Solubility & least Alkalescency. Hence liquid Food are & alkalescent avoided as giving Stimulus & increasing putrefactive Tendency in Fluids. The Rule of this Country is to abstain entirely from animal Food is proper — The Antients had a Nicety in giving Diet of wh we know Nothing. The Inhabitants of warm Climates indeed may require more regular Food as more sensible to changes. but their Doctrine was found as much on Theory as Experience. What is solid in these Observations amounts to this — 1st If Appetite for Aliment — This discovers the Laxity of the Disorder & therefore Stimulus of Aliment less Dangerous — But tho the Appetite may guide us yet we may very readily go to Excess. And therefore this Rule not so general as that of avoiding Aliment when no Appetite.

2d Abstinence is most useful at first — at the latter end of the Disorder, aliment may be useful to support strength. In Intermittents we are to take that Time for Aliment most distant from Accession & in continued we are to give Aliment in the most perfect Remission — This Attention to Time becomes less necessary, as we are cautious in giving mild antiseptic Food. The Antients rejected properly all stimulant liquors, that is all Liquors impregnated with aromatics & from all fermented Liquors — hence Wine. Disputes with regard to this, wh we shall consider hereafter as of

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admissible it must be as a Medicine. I do not how-
ever agree with Celsus in supposing that Abstinence
from usual Wine is of more Consequence that withdrawing
usual Food; but Food not only stimulates the Stomach
but remains longer & fills the Vessels. - This indeed will
be relative to Habits. If a Person uses vegetable Diet
& much Wine Celsus's Rule may take Place; but Wine
is attended with considerable Dilution & an agreeable anti-
septic Acid.
As to stimulants arising from the Body we must avoid
1st Thirst. This is generally in Proportion to the Demand
of Drink, & when we consider how useful Diluent Drinks
are on several Acct. I see no Foundation for some of the
Author recommending Abstinence from Drink for
3 Days. - Thirst as a Stimulant ought on the anti-
phlogistic Plan to be removed. - As to the antient
Rule a Case is explained by Dr Cleghorn.
He says in the greatest Urgency of the Thirst in Paro-
xysms of Intermittents the Spanish Physicians do
not give Drink till sweat is ready to break out.
He finds a Reason first on the great Collection of
Blood in Lungs &c. - It would be aggravated by filling
the Stomach. - Besides this, these Physicians say
that Drink tends to prolong the Hot & the whole sow-
them Practice has this Tendency. - We shall hereafter
explain this perhaps. We may observe that Drink is not

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to be regulated by the Thirst of the Patient.
2d Crudities of Prima viæ to be removed, whether from Ingesta or Fluids of Prima Viæ thrown out in too great Quantity or vitiated Quality.
3 Stimulus from Costiveness. – In all fevers not remarkably bilious & putrid, Costiveness commonly occurs – It arises from the general Constriction of of Extreme Vessels. The Tension of the alimentary Canal has great Effect on that of the System – Hardened Faces collected then will prove stimulant – But further in Fevers Fluids are accumulated in of abdominal Viscera This must be encreased by the Constriction of Vessels of the Intestines & therefore the relaxing therapeutic: ating the Faces will relieve this. Glysters are proper for this, tho not more stimulant than just to answer the Purpose, otherwise Purgatives.
4th To obviate the Acrimony of the Fluids in general Every Person will admit that in all Fevers there is a Tendency to Putrefaction & alkalescency. Hence that this must be moderated by antiseptic Aliments & considerable Dilution. Physicians have often much of the Dissipation of the Fluid Parts of the Blood, hence an Inspissation of the remainder & therefore a Lenta supposed. This allowed, as we shall not now examine, Dilution appears equally

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necessary. Therefore Deletion is a considerable Part of antiphlogistic Regimen

We proceed now to the taking off Excess of Spasm when it occurs - Many of the Particulars of antiphlogistic Regimen are applicable here. You will easily discover how many of these Particulars as obviating usual Irritations are withdrawers from Impetus of System.

We especially however obviate Spasm by taking off arterial Tension particularly that in the Diathesis Phlogistica consists -

What Difficulty there may be in explaining how the increased Tone of the arterious system increases Spasm, the fact is certain - for we find the increased Action of the Arteries greatest in the Phlegmas. when a Phlogistic Diathesis is certainly present.

1st because this Diathesis gives longer Fevers when it occurs.

3d Because whatever Stimulant has the Effect of irritating Arteries gives greater Spasm, longer Paroxysms, & therefore often changes Intermittents to continued Fevers.

The Remedy of the Phlogistic Diathesis is Blood-letting. The Tension of Arteries depends partly on the Increase of the Action of the Sensorium partly on distending Fluids - hence if we consider how Evacuating takes off the Tension & how the Tension of one Part is connected with that of another we shall see its Effects.

And then V. P. should have the phlogistic Diathesis.

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But tho V.S. is indicated in so many Fevers, yet we must consider that the Excitement, the vigor of the Sensorium depends on a certain Tension given by the Heart & Arteries to the Vessels of the Sensorium — When Debility prevails in Fevers & they end fatally, it may be not only from Poisons attacking the Sensorium, but may take off the Tone of the Arterial System. Poisons indeed may do this — it appears from the Dissections of the Persons wh died of the Plague at Marseilles & others, the Heart was found distended commonly to double its natural Size, Arteries full & very turgid wth Blood — Liver commonly of double natural Size — all these are to me proofs that the Tone of the arterial System was so weak that the natural Contractility could not unload them as usual — hence to be considered as a principal Cause of the Death.

When Death arises from Causes of Debility it appears in the Weakness of the Pulse — When these Causes of Debility occur, when the Debility is approaching or when Reason to suspect to Debility is soon to prevail it is dangerous to employ means for taking off Tension of the Arterial System — There are therefore limits to V.S. even in Fevers very inflammatory. There is not a more difficult Question than when V.S. is to be employed in Fevers! There are here 2 general Rules, indicating or contraindicating it.

1st Indicated wherein Stimulus is more in Proportion than Sedative or Septic. Many circumstances determining this. We know stimulant Power to prevail when at first the Pulse is very frequent, accompanied with Strength & Fullness

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and especially if joined to a sensible Hardness
then considerable Heat too is present & also when the Celerity
of the Stroke is perceptible. This will be more indicated when
appearance of topical Determination, as Head-ach, pervious
Delirium, Difficulty of Breathing.
When these Marks are not sufficient by decisive, we take
in other Considerations. Thus when we know that Causes
more evidently stimulant have preceded: as when the
Patient has been exposed to great Heat, Labour or Cold.
I would not be positive but Cold may excite Fever alone
that least determines particularly to Phlogistic Diathesis.
Another Consideration is the previous known Vigour of
the System known to be disposed to Phlogistic Diathesis.
Hence in the robust & youthful. the antients from their
Climates perhaps avoided Bleeding in very young &
very old Persons. The Generality of this Rule was doubted
in Celsus Time. yet certainly old Persons are less
disposed to Phlogistic Diathesis. In very young Persons
the Lacity is greater & Tension less. So that V. S. less necess-
sary — In the Advance of Life Caution necessary.
Other Circumstances determine to Phlogistic Diathesis is
as cold Season & cold Climates —
In such perhaps there is always more or less of it, but by
using so freely here, we have badly transferred to warm
Climates the same Practice —
Q. V. S indicated in Proportion to the recency of the Disease
as Season greater then & Phlogistic Diathesis then greatest —
The Contraindications of V. S are for the most Part con-
verse of what we have mentioned. Accordingly forbid where:

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wer Sedative Power is present or is expected to prevail but we are here to determine by Symptoms when the Pulse is not quick nor full & especially if weakness of the Lessons and animal Strength.

Other Considerations where they are ambiguous.

When Sedative Causes have preceded Death may arise. As Sedative either does at first or soon will succeed in Fevers from Miasmata or Contagion, Caution is to be had. We may use V. S at first perhaps, as much Inflammatory Affection often attends

In Miasma & Contagion V. S appears in general dangerous. Other Causes of Debility influence these as when the Disorder succeeds large Evacuations, other Disorders, Grief, Fear, Watching &c.

In all these V. S. is to be abstained from or used with great Caution.

When Disposition to Debility & Putrefaction. Hence V. S. carefully to be used in warm Seasons & Climates.

We see warm Weather take off Phlogistic Diathesis & besides gives a Tendency to Putrefaction

As the Disorders have subsisted long & therefore Debility a Tendency to Debility may be more expected.

If the Diathesis Phlogistica has the chief Hand in forming continued Fevers. In intermittents we may presume its Absence. And hence we find Intermittents & Diseases changed from them ~~[illegible]~~ we intermittents do not admit V. S.

If from Phlogistic Diathesis they should particularly require Bleeding yet the more of Intermittent in Form, the more Caution must we have in V. S.

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These are the general Rules of Practice wth regard to V.S.
There have arisen from Considerations before Trial, but
Practice has furnished us with Signs. If the Pulse becomes
softer after V.S. it is a Sign of Phlogistic Diathesis present —
If without great debility the frequency & Celerity are dimi-
nished after V.S. it is good; but it must be avoided here if con-
ouring Signs of great Debility.
If it relieves Difficulty of Breathing, the decubitus Difficilis,
the Delirium &c we may be certain of its propriety.
Another Mark is the Appearance of the Blood itself.
If it has flowed in a full Stream from a large Orifice &
coagulated suddenly & it still is a uniform Coagulum
we may suspect Dissolution & debility & hence a Contra-
indication to V.S.
If under these Circumstances there is a full separation
of Crassamentum & Serum & a Separation of a lymph, suf-
ficiently tough on the Top, it is established as proper.
Serum not separated is no Mark of debility, nor is a less
Separation a Mark of Phlogistic Diathesis — As I
have found by Experience — Indeed I think that small
Crassamentum with Buff, that by its Contractility
draws up to a Purse gives the greatest Mark of Phlo-
gistic Diathesis. When the Crassamentum is diffused &
has a Plain Crust on the Surface wth little Serum sepa-
rated, I look upon it as a Symptom of less phlogistic
Diathesis + the Serum as more or less red, like the
Lotica Carnium, shews Putrefaction.

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yellow Serum too is the same, the ambiguous in some
Measures in some Rheumatic Cases of this Country
in wh no putrescency could be expected, I have seen yel:
low Serum – This then is a mark perhaps of Phlogis:
the Diathesis as well as Putrefaction.
The most difficult Cases of Fevers with regard to V.S. w
hen a Fever has subsisted long w Debility & Signs of Topical
determination at the same time
The Measure of V.S. Practitioners have found difficult to
establish – there many Mistakes on both sides.
Many Fevers prove fatal for want of V.S. many because it has
been too plentiful – I have given you Rules for determining
1st The Constitution of the Patient. 2d the Circumstances
he lives in – his being an Inhabitant of a Cold Country drove
might have added according to ye Vicissitudes – Thus intense
Winters & Summers in Northern Parts of America. Prac:
titioners informs one that such do not bear V.S. so well as
Europeans. Other Circumstances are Debility previous, Disease &c
3d We are influenced by the Cause whether with or without
Marmada & Contagion 4th as more recent. 5th according to
Type, as more continent or intermittent especially
we judge by the Symptoms, tho this to young Practitioners
may be very fallacious. Thus in a plethoric Fever violent at
first at first – there bear a single Bleeding, but a 2d may be per:
nicious. But the Symptoms will not do unless former
Circumstances be taken in. Lastly The Effects of V.S.
when instituted must guide us. A Difficulty occurs, Scarly

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topical determinations, where great debility is also pres
ent often in these Fevers from Delirium, Suffusion of Con
tenance, Stupor, Delirium, Subsultus Tendinum have sus
picion of Inflammation of the Brain; as Bleeding here prequ
topical Inflammation always gave general phlogis
tic Diathesis, Bleeding would be indicated; but we know
there may be topical Affection without occasioning Fever &
therefore not giving Phlogistic Diathesis. In such of
drawing Blood from a Distant Vein has no Effect.
have seen an Inflammatory Opacity of the Cornea, as
could not be cured by the most copious V.S. Topical In
flammations then unless accompanied with Presence
of Phlogistic Diathesis are not Indicants of Blood letting.
In Choose of this we know that topical Inflammation may
subsist under great debility of System. Thus the Inflammation
in the Jail Fevers. A topical Inflammation may be hurtful
in the Part, & may overtate the Sensorium, yet may not admit
general Bleeding without great Hurt. Topical Bleeding, if
convenient may be employed. – but difficult often to measure
this. I have seen Leeches applied to the Temples go to excess
in the Whole System. In Affections of the Brain, topical
Bleeding on ye external Part of the Head, it is probable have
greater Effect than general Bleeding in Affections of ye Lungs.
But this Affection of the Brain may be to a considerable Degree
not to be relieved by V.S. without injuring the System whe
ther general or topical V.S. This is the most distressfull

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Case in Fevers, tho as so we must take the anceps Remedium & therefore employ, if possible, topical Bleeding.
The Quantity of Blood to be drawn is difficultly ascertained. Physicians & by Patients determining from the State of the Pulse, the Quantity, but this is not accurate. In tying a ligature we accumulate Blood in the Limb. The Resistance of the Ligature is equal to the Force of the Blood flowing from a Vein, because it does not flow sensibly from a Vein opened without a ligature. & therefore during the whole Operation of V.S. the Blood comes out equably. Accordingly I have found no alteration during Bleeding, when Deliquium ensued directly after taking off the ligature. Indeed we may judge when Deliquium comes on before the ligature is loosed. Thus however a time is a rare Occurrence & the Pulse a very fallacious Test at best.
In great Tension of the arterial System, we often have determined the Propriety of V.S. rather by the Relief perceived by the Patient, than by an Alteration we could feel in the Pulse. Other Circumstances may be taken in, tho nothing very certain. In a vigorous & moderately robust Person, Loss of Blood is a large Evacuation - after this great Caution. In very robust Persons of great Phlogistic Diathesis, Swell not exclude this, tho this gives Rise to great Debility & very tedious Convalescence.
A second Evacuation is Purgatives.
To consider their Effects, we must consider that it cannot be obtained we should Stimulus applied to the Intestines. This may be of such a Kind as to communicate Stimulus.

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And therefore certain Purgatives may hurt as much by Stimulus as the relief by Evacuation. Purgatives then for taking of Tension are not admissible, except Stimulus much confined to the Alimentary Canal. It is a known Observation that the Evacuants by Purging, have not equal Effects with that from V.S. The Reason is evident. The Tension of the Intestines much connected wth the whole system, but the Connection of it wth the sanguiferous System is not nearly so great as the Connection of Tension of the different Parts of that System. Thus loss of Blood from a Vein is as good perhaps as loss from Intestines.

All the Reasoning against Excess in V.S. will apply to Evacuation of Purgatives. This may be the Reason why Practitioners have ~~also~~ as Purgatives as Evacuants, in Fevers. Hence Emollient Clysters substituted. But besides the Evacuation by Purging takes off the Determination to ye Skin, so useful in Fevers. Accordingly a spontaneous Diarrhea or severe purging has been always reckoned hurtful in Fevers, & hence Effects of Purgatives not answerable to what we might expect from ye Evacuation. Nor have they been much recommended. Sydenham condemns them in Pleurisies & Peripneumonies. here we might suppose however they could derive from ye Breast as well as V.S. But the Consideration of taking off Determinations to ye Skin must be taken in. The antiphlogistic Purgatives may be used, but from the Danger of Excess from them deriving from the Surface not much Employed.

Yet in some Fevers Purges are very good. Let us consider whether

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in such Cases they do not act differently from demulcents by the general Tension. - They are good in Fevers called bilious, that is, Fevers with considerable determinations of Fluids to the abdominal Viscera. This I said was peculiar to Fevers of the intermittent Kind especially the autumnal, because the Bile seems under a particular Vitiation at that Season. I suppose with Practitioners that Bile in these gives acid Matter & by stagnating gives Rise to the Absorption of it & hence Purgatives useful. This Affair of Absorption is not established certainly; but besides it appears that Fluids determined to the abdominal Viscera do not act always by the Quantity poured into the alimentary Canal, but by being accumulated in Urinary Vessels occasion Spasm. In Proof we find that the Liver & Bile are much enlarged. The opening the numerous Excretories of the alimentary Canal may be the very way To obviate these Effects.

This shews the Application of Purgatives in Intermittents & Remittents. It is also the Foundation of Purgatives in putrid Fevers, where Ferment has often a Tendency to induce Intermittent. Hence so much Talk of Chrystals of Tartar in putrid & malignant intermittent Fevers, so frequent in warm Climates especially when exposed to marshy Exhalations.

These Fevers frequently attended Petechiæ, but then not always a Mark of Putrefaction. In nervous Fevers from human Effluvia, this is the Case then attended wth Petechiæ.

Dr of Mentz proposes curing all Pethechial Fevers by purging. Many of his Proofs are very ambiguous, thus he used Oxymel Scillitticum often & was an Emetic as well as Purgative: he using Oxymel Scillitticum lead

(a) This is a Quotation from Alexander's Essays - the Sentence is incomplete.

me to observe that Tartar Emetic has been used as pur-
gative. I believe that it has bad Effects when it purges;
tho many late Practitioners quite overlook its nauseat-
ing Effect, wh is certainly very considerable. I shall en-
deavour to shew that Purging as mere evacuation have
not been so successful.

A third Head of Remedies remains under the general
Title of Refrigerants. The particulars are acids & certain
Neutrals. That both are sedative many considerations
lead to - particularly their experienced Efficacy in Hæmorrhage
wh can only be owing to sedative Power. Acids besides quench
thirst & therefore diminish Stimulus. by taking off the disagreeable clammy-
ness of the Mouth. by resisting Putrefaction at least in
the Prima Via if not in the Blood. by promoting Urine
& possibly Respiration they may be good. It is probable that
vegetable Acids promote Sweat. That fresh Fruits are the
best Evacuants for acrid Bile. In all putrid & Inflammatory
Fevers, acids are undoubtedly proper. In nervous Fevers
their sedative Action is not hurtful. like that of neu-
trals it probably occasions a Reaction of the Sensorium
that determines to the Surface.

Neutrals - What Powers they have as Sedatives is still uncer-
tain "In Cases where the Momentum of Blood is so violent as
to threaten immediate Rupture, a Dose of Nitre might
be"

This is a refinement that perhaps is scarcely admissible.
their Action in these Cases is perhaps the reaction they
occasion determining to the Surface. This sedative

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Power is confined to a few of the neutral Salts. Many are accompanied wth great Stimulus to every Part of ye System. We shall speak of Neutrals as Diaphoretic. I shall only observe here that they may be anthropic on the Prima Via tho not on the Blood. They are also Diuretic. In affections of the Lungs, I have seen the Cough aggravated by neutrals & Acids. As Instance in a late Writer on the Plague. He found Vinegar a useful Diaphoretic - but in weak People & the Phisical he found it give Oppression of Heart, Cough &c. The Preference in Acids is given in Favour of Vitriolic. The Marine & nitrous have particularly the Effect of irritating the Lungs, especially the former.-

We proceed to the second general Indications, wch is to restore Vigor of the Sensorium. particularly the equable Distribution of the nervous Power to the System in general perhaps to the extreme Vessels every where. We shall possibly repeat some of the Remedies mentioned under former Heads, but the same Remedy may answer different Intentions. I must arrange the Particulars under certain general Heads. as they operate to the general End in View. Some particularly operate by restoring the Distribution of the nervous Power to extreme Vessels. Others in restoring the Determination to the Surface of the Body, as Vision the most palpable Instance of Determination to ye extreme Vessels from the Number Herein. Deluents, Neutral Salts, Sudorifics & Emetics are the internal Remedies for this Purpose. Externally Blisters & Warm Bathing

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All these act partially by restoring more particularly the nervous Power to the extreme Vessels appearing especially in the Determination to the surface.

The 2d are such as especially restore the Tone of the arterial System. The Action of the Heart & Arteries I have said was necessary to excite the Action of the Sensorium. but often this fails for want of Action of the Heart & Arteries. this is to be restored by cold Bathing Tonics & the stimulants called Cordials.

4 3d Head of restoring regular Action of the Sensorium viz. Antispasmodics. we are to consider these and Cordials mentioned Diluents. This is an Example of the same Remedy answering different Indications. They were a Partisan Antiphlogistic Regimen by obviating Acrimony in the Prima Via, in of fluids of the Mass of Blood & relaxing too, of you pleasers favourable to obviating Cinter, as favouring Secretion & Excretion.

From their favouring Excretion by Urine, Perspiration & sweat, they belong to this Head, as they carry on Circulation more fully to the extreme Vessels & thereby contribute to restore their Action or at least obviate their constriction. If this can be done, by the Bulk of an inert Fluid, it may be done at Safety & Advantage. Water then is justly acknowledged the Basis of Diluents. cold stimulant Impregnations may be hurtful.

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It has been alledged that Pure Water is less apt to
pute with them Fluids than some Deluents of a more
oiled Kind - that Water cures off soon by Excretion,
by doing so it answers the Purpose of opening Excre-
tions but is less fitted for taking off Acrimony or
moving Lentor. Physicians then have found that
impregnating Water with oiled Matter is usefull,
and have they employed impregnations of farinace-
ous Seeds, as less apt to pass off & most apt to en-
viscate Acrimony.
Neutral Salts - As antiseptics & antiphlogistic
Cathartics I have said they may be used: I have said that
little Dependance is to be had from their refrige-
rating Power, as they cannot be thrown in an suf-
ficient Quantity. And tho they should, yet of little
efficacy, as the refrigerating Power seems imme-
diately to excite a Reaction of the Whole, at least of
Part of the sanguiferous System.
They seem thus to have much Power in restoring
Action to the Extreme Vessels & therefore of curing
Fever, as depending on this. That they operate thus,
appears from the Heat on the Surface attending their
Exhibition from the Sweat that often follows & espe-
cially their obviating Effects of Cold Fits in Intermittents.

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That they act thus appears from the analogous Operation of Cold Water. We might enter into curious Disquisitions of the extreme Vessels being as Dwarf, the Instruments of Tension, of their Connection with the Sensorium, of this with the Stomach & thereby the Stomach with the Extreme Vessels. This would give Illustration of our Theory of Fevers; but this sufficient to know that Neutrals obviate Spasm of ye extreme Vessels & thereby I suppose Spasms are overcome by restoring Action to some Part of ye sanguiferous System. This is performed probably by neutral Salts.

Three Questions occur here.

1 How far Limits these may be carried.

2 Where properly to be applied.

3d What neutral Salts are proper. As to the first we know that they are not always efficious —

The greatest Advocates for them acknowledge them only efficacious in Tertians & Quotidians.

It is necessary to know what is the Effect. If they do not cure, but contribute to it, why are not the Doses encreased & more frequently repeated? I suspect they may thus do Harm. A Hot fit formed to a certain Degree only is necessary to remove a Fever. I have observed that by too violent hot Fit, the Patient was dissolved in Sweat & the Fever as far from Solution as if no hot Fit at all.

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I suspect that the constant use of neutral salts would prevent that proper Degree of hot Fit wh is necessary for Solution of the Fever.

The Spanish Physicians according to Cleghorn allege that from Experience it appears that inhibiting Drinks too soon prolongs Paroxysm. I conjecture here that any Heat whether Cold as refrigerant or hot as immediately relaxing the Surface will tend to this.

I Imagine I have found the Reason of the Abuse of neutral Salts here.

This leads to our 2d Question of the Propriety of applying when the Cold fit is come on & 2dly When Hot.

A 3d Case when a Spasm in the Stomach, wh may be properly taken off by neutral Salts. This appears in Intermittents in wh I refer their chief Use to the Time of Evacuation. In the ordinary Exhibition of saline Mixture, it is a Placebo. If we would have Effects larger Doses must be employed.

4d Choice of Neutrals? A Question undetermined. Few Practitioners have Diligence or Capacity for enquiring into these important Points. Sal Ammoniac & digestive Salt have been reckoned most effectual — to take off Vomiting in Fevers we have employed saline Draughts. What Difference in one or the other & which

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appropriated to Intermittents, continued not known.
The Spt. Mindereri as exhibited in general is frivolous.
have seen it used in prodigious Quantities without
effect. I only observe here that this is not ascertained
Sudorifics. These at present on an uncertain footing.
They were formerly considered as the chief Remedies &
Sydenham properly illustrated their Uses. But it is
not certain that Sydenham & his followers did not go
too far; taking Sudorifics for every means more or less
stimulant, wh may promote sweat. q Fevers in so termi-
nate in Sweat. Neglecting that the Advocates for
sweating are now deprived of the Support of morbific
Matter to be thus expelled. I think that upon this gene:
ral Fact of Termination on Sweat, we might take
Arguments for Acts promoting it. Many specious
Reasons might be deduced.
Since Sydenham few Advocates for Sweating. Dr Morgan
in his mechanical Practice has however alledged
that most Fevers may be thus Cured, but not con:
clusive. for 1st in Intermittents many Sweats
without final Solution. Dr final Solution in fevers
are not in proportion to the Sweat. Critical Sweats
often moderate. often Intermittents are aggravated
by profuse Sweats & their Length continued. Intermitto

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so are often attended wth Sweats, that protracted Disorders. Sweats urged are apt to render Intermittents continued & much more pernicious. This has been said of Dr Morgan. But on the other Hand we have his Testimony of curing all Fevers by sweating, wch must certainly go some length notwithstanding his Prejudices. I have known other Physicians that followed this practice successful. In the Age of Alexipharmacs had we time to consider them many Facts occur. & some fevers absolutely require Sweat. The Point then is not determined. I think that if a Fever can be perceived approaching before Formation of Spasm sweating may prevent this & by revolving Determination to the extreme Vessels may obviate the Fever. We have Proof of this in the curing Intermittents, by approaching Sweat till the Time of Accession. By such Means does Dr Morgan say he cured the most obstinate Quartana. Instances in Practice of Continuedes cured by the same Means. It may be said here that the Fever would not have come on but from the Circumstances indicating it & the suitability of the Practice we may suppose it effectual.

Again Sweating may be admissible in a recent Spasm. this appears from Experiments.

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Sweating will be found useful when from the
Nature of Epidemics we know it to depend on a re:
markably sedative Power. In Proof of this the universal
Practice in the Plague has been sweating.
Many Disputes - but we neglect the Objections that
arise from Mal-Administration of Sweating, we shall
find the most happy cure of the Plague to have been by
sweating - Deemenbroek was most free in this Prac:
tice - Of late Chi - & others late Practitioners
have wasted more for Nature, but seized the first Oppor:
tunity of promoting this Tendency - Other Proofs of
sweating in the sweating Sickness. Many Testimo:
nies of the Usefulness as well as the Inefficacy of
Sweating - To determine here we must observe
that in cases when Sweating is most useful if
this is pushed by Force, that is by Inflammatory
Stimulus, Load of Bed Cloaths, or if with the Sweating,
Delirium, Difficulty of Breathing, or the Sweats partial,
such at least protract, if not aggravate the Disease.
2. Continuance of the Hot fit depends on Phlogistic
Diathesis, what wn lengthens this has a Tendency to
produce this Diathesis, & therefore give more Danger.
Vehemence of the hot Fit besides may occasion

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topical Determinations of the greatest Danger in Fevers. The Raging of Sweats then requires great Caution. — My Rules here are that

1st When Phlogistic Diathesis or the Spasm necessary to this, urging Sweat is very hurtful. On the Contrary when Spasm not found

The Question of the applying of Sweat particularly relates to the yellow Fever of the west Indies — This appears to turn out fortunate only when in y Beginning has been tried. I am almost persuaded that the same thing is to be done as in the Plague. we must not urge it violently but promote the Tendency when it appears. Many facts shew the Danger of urging Sweat too far.

When Symptoms of the Hot fit are strong, an here a Tendency to Sweating is not to be encouraged. as we may urge the Hot fit that the Sweat will be pernicious and more moderate would have been salutary. — Topical Determinations are to be apprehended from urging Sweat. would here give 2 dogmatic Rules. Where Diathesis Phlogistic evidently prevails in the Spasm depending on this, or indeed being obstinate from any Cause, sweating perhaps is not to be pushed. Mr: Chenot speaking of the Cases for or against Sweating, says "See the Author's writings —

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would then forbid sweating under any any violent spasm.
Before spasm is formed & especially when recent 1st & 3d when
Miasma & Contagion of sedative than stimulant, sweat is
allowable. In 1st Perhaps the disorder may be prevented by
sweating. In 2d Before spasm much formed it is more safe.
but in 3d when we know that the sedative Power will multiply
by Fermentat.n or induce Debility by Repetition of Pa-
roxysms we would wish to employ sweating. The
sweating on these cases must be excited by the least stimu-
lant, as Tepid Applications, bulky warm fluids that act
chiefly by Bulk. It is as necessary that sweat be not
very profuse, but moderately carried on. Chiron endeavours
every where to inculcate that a more full Respiration
is best, & that the Relief is not as Degree of the sweat.
We may from our Directions find too why sweating is best
after Blood-letting. Hence Sydenham's promising V.S.
to sweating on the Plague was well founded.
It has been observed that a previous Bleeding not only
induces sweat safer but also purging.
In the late Plague of Marseilles it was a universal Prac-
tice — Similimis ventured on V.S. but commonly gave a
Vomit to clean the Primæ Viæ. If this did not purge they
opened the Belly; & then on the least Effort of Nature promoted
sweat, on wh.h the cure was rested. The previous Purging they
found useful & this we may understand from the Consideration

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of the Vessels of the alimentary Canal, being taken off & thereby the dangerous Accumulations in internal Parts obviated – As to the Degree of sweating not established. – Different Opinions. Diemerbroek thought that he might for the Ease of the Patient allow sweats to subside & renew them again. But Sydenham says, that those sweats are very Dangerous. The subsiding was attended wth appearance of Spasms & the Renewal attended wth Aggravation of Symptoms. Sweats then, that the Patient may support them a sufficient Time, should be moderate, not hard ones for a short time have been often pernicious. In Fevers there is an Exacerbation in the Morn. I imagine that sweats ought always to be continued till we are sure the next succeeding Accession is passed over & hence must be extended beyond 24 Hours. The good Effects of sweating depends on its being equally determined to all Parts & down to the Extremities of the Toes. Dr Chalmers of Carolina trusts more to sweating but takes especial Care to determine it to Feet. – If we wish not to apply general Stimulant sufficient for this, yet by particular Stimulants to the Extremities the End may be obtained without the Inconvenience hence he puts Hot Bricks to feet. This Author has presented us with a Difficulty. He asserts that sweating is useful in Inflammatory Diseases as Peripneumony. If he is right our Reasoning is doubtful of not false.

The only Act by wch I can obviate it, is that as these

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Peripneumonies may take an Intermittent Type; I would suppose them not Idiopathic Peripneumonies but only accidental determinations in pure Fevers. This however wants fur ther Confirmation.

I might enter on the Remedies employed for sweating; but less necessary as I have said no stimulant Repute. Opium has been pretty universally the Sudorific. The active Part of Mithridate & Theriac perhaps is Opium. In the Plague of Marseilles simple Opium & Laudanum answered equally well. As many Objections have been against Sweating by Narcotics as by Stimulants, however we explain it, Opium is reckoned hurtful in Phlogistic Diathesis.

But as Opium sweats by taking off Constriction of the Extreme Vessels, this more than compensates for Stimulus therefore may not such Sweats be useful in Spasm? My Practice does not determine this. Sweat may be rendered safer, if produced by such Remedies as operate more by taking off Relaxation of extreme Vessels than by stimulating Heart & Arteries. Such are Neutrals & Emetics.

Neutrals are not yet determined, never have been employed on the Plague: but Practice now shews that they are Sudorifics of the least Stimulus & best fitted for avoiding the Dangers of exciting Sweat in great Hemiplabia as mentioned by Clinost. Let us then consider whether the Objections against Sweating that have arisen from

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using Stimulants, may not be remedied by using neutral salts.

Emetics. The present favourite Sudorific in Practice. De Haen is the only famous Practitioner who opposes their Use. We must consider them as producing 1st Complete Vomiting

2d As inducing Nausea without Vomiting.

Vomiting generally useful by cleansing the Stomach, so frequently the Seat of Irritation in Fevers.

2d Useful as the Operation emulges bilious pancreatic Ducts & Excretories of the alimentary Canal, particularly useful thus for obviating the Accumulations mentioned.

3d More Considerable Action is the Determination to the Surfaces w^h they certainly do as well as from acting on Extreme Vessels as by the Exercise. that operate on these Vessels appears from Natures bringing on Ague Fit by vomiting: & also by their so frequently curing Intermittents. The Case in w^h most hurtful when Inflammation on the Stomach or other Topical Determinations in great Degree. Often not effectual from their Effect not being sufficiently durable. If the Action on the Stomach is necessary in curing Fevers to be supported some Time, vomiting is improper.

The Exerting too of Vomiting will occasion a prostration & Depression, As appears from the Weakness felt afterwards; & especially from Practitioners observing that if whole Operation of vomiting is over before Accession of intermittent

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Paroxysm, this becomes more violent.- This I can only explain from their inducing Debility.
Besides Evacuation & general Agitation, Emetics act on extreme Vessels by Action on the Stomach - the Proof is that when only giving Nausea they often give sweat, or without this relieves the Fever - This is to be explained I think from their restoring Action to extreme Vessels. The Action of the Stomach not only produces Action in extreme Vessels of the Surface but also in extreme Vessels every where, & therefore a nauseating Dose of Emetic may obviate Obstruction of the Viscera without being applied to Intestines. but when for this Purpose we generally give in such Doses that they reach the Intestines. As to the Particular Administration we must first consider the Time of the Fever when most proper to be given. It has been found in that a nauseating Dose even before the Fit has with sweating at least rendered the Fit less considerable & often cured. It has been found that the Approach of a continued Fever has prevented the Disorder. Dr Lynn has given many Facts in Proof of it - He supposes it owing to the Miasma & Contagion being particularly lodged in the Stomach & thereby thrown out. But without raising Doubts about this Seat of Fever or the Reasoning that would follow I say that Emetics are effectual when no Vomiting has occurred or other Means of Expulsion & then we

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rather refer to Action to the obviating Spasm.
Emetics given in Cold Fit gives an End to it & brings on Hot
Fit & by repeating this, we may often cure the Fever.
The Vomiting of the cold Fit I have said appears a means
of Nature for bringing on the Hot. Its coming on late
may depend on a Spasm being necessary for some
time before it affects the Stomach.

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What kind of Emetic Medicines sh.
we employ? In ye Beginning of y^e
Fevers vomiting is to be promoted
especially if no Inflam.^n Diathesis at-
tends. After Fevers have continued
for some time they are less safe upon
the Acc.^n of Inflam.^n Congestions happe-
ning sometimes in ye progress of Fevers.
the nauseating Medicines only are
to be used in these Cases. I am happy
in finding several Authors of Credit
agree with me in this Practice. Vomi-
ting therefore sh.^d be continued only
to ye Beginning of Fevers.

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Ipecacuana is ye medicine usually employd to excite vomiting. But the stimulus of this is often too weak to promote a sweat. the ℞ Emetic is preferable to it. the use of this medicine was first suggested by the Introduction of James's Powder. the ℞ Emetic is a more manageable medicine than James's Powder, or any of the Other preparations of Antimony. It has been given differently by diffrent Practitioners wch is ye Reason why it is sometimes given wth worst success. we Ohd always

give it just before the Exacerbations of Fevers in such Doses as to excite a nausea without a vomiting. if it shd. bring on a purging I always suppress it by giving no warm water. the Effects of this Remedy are in some measure Abviated by promoting a vomiting. the more severe ye nausea the more successful ye Medicine Operates. When ye Emetic passes into ye Guts it always produces some Vacuation that proves rise more especially Sweating. By this Management I have often procured a Termination of Fever

as Omen But its most general
Effects are to bring on Sleep - lower
the Pulse - & thus induce consi:
:dable Remissions in the Fever. By
repeating the Medicine the Distemper
is likewise rendered shorter. the Ex
tract may be given in all Stages of
Fevers before Mortal symptoms
come On, But it does service chief:
:ly in the Beginning of Fevers & if
it does no Good on ye first two or three
days of Fevers we may lay it a:
:side. Nauseating Medicines are
lis serviable in the Phlegmatic

than in those Fevers where there is no Inflamatory Diathesis. However I have found it useful in Inflam.ry Disorders, & would recommend a Trial of them to you in such Cases.

We come now to treat of Sexual Medicines which are used to promote the excited state of the Genorium &c — these are Blisters & ~~cold water~~ warm Bathing

1st Blisters — most of Practitioners disagree about these Remedies. I shall not discuss the various Opinions entertained concerning them. They stimulate & excite a

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considerable Inflamation, but this is topical & dont extend to the whole System & therefore frequently produces no Quickness of Pulse unless in Persons of very delicate Habits or those who are subject to a phlogistic Diathesis. But even in these Cases the advantages obtained by the Evacuation amply compensates for any Stimulating powers they exert. We cannot here for the success of Blisters in Fevers from their Stimulus. They Operate chiefly on the Vessels on the Surface of the Body. The Skin is a continued

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membrane & any stimulus to one part is easily communicated to the whole. The Effects likewise procured by Blisters tend greatly to cure Fevers. – In the Beginning of Fevers we Shd. be cautious in using Blisters, Altho' I think we are apt to run to an extreme in this Rule. in all Fevers where the Sedative powers prevail, Blisters are more useful than in those where the stimulating prevail. Dr. Hapham forbids them in Inflam.: & putrid Fevers. But I think they may always be used to the Advantage in

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all Inflam.y Diseases when they can be applied near to the seat of Inflammation. Dr Haen supposes the stimulus of Blister to be very gene: ral, altho he acknowledges at y same time that they diminish the Heat of the Body, & approves of their being applied in topical Inflam: mations. Dr Pringle has confirmed the usefulness of this Practise in his Diseases of the Army. Dr Lind recom: mends Blisters almost universally & he is an Author of great Credit & veracity. He used them w: the

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utmost success in all Fevers from Contagion. See the remarkable Ac.ts of their success in his Treatise on Fevers & ~~Conta~~ Infection. Some suppose Cantharides dissolve the Blood & are therefore hurtful in putrid Diseases, but this I deny, for y Quantity of Cantharides taken into ~~the~~ the Blood cannot be equal to y Effects produced upon it. Besides y Experience of Lind - Mandeller & Rivarices all confirm their usefulness. great Care ought be taken to avoid strangurie in Fevers, & this is to be done by not

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suffering the Blisters to lie on too long. we sh^d. likewise be careful to avoid giving the Patient any pain in dressing the Blisters.

The best place of applying Blisters is to the Head & Back, from Inflammations being so frequently seated more or less in those places. they are not so useful when applied to the lower extremities altho' the vessels appear to want to be excited there. instead of applying them to the Ankles I think it would be best always to apply them to the Thighs. —

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This leads me to speake of Synapisms w.h are applied always to the Feet. they may be used where Blisters are forbid by Phanquies or Other Circumstances. when we want a sudden Friction nothing but Mustard = seed sh.d be applied, but this must not be continued above an hour or two or it will excite the most exquisite pain.

To restore the Determination to the Surface of the Body Another Remedy of great use in warm Bathing — This was used greatly among the

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Ancients, but in Modern times it appears to be laid aside. Dr. Gilchrist of this Country has recalled the Attention of Physicians to it. See the Medical Essays, & his Treatise on Sea Voyages. The Practise I grant is attended with many Difficulties, upon this Acc.t Fomentations of the lower Extremities have been substituted in its Room. This has Advantages above a warm Bath. It excites a more universal Stimulus. It disturbs the Patient less, & may be continued much longer even two or 3 hours. These Fomentations are

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highly useful in ye advanced state of Fevers when the Phlogistic Diathesis goes on, or when the Putrefaction of Humoriums is resisted as we know from the Delirium & Stupor which attends. the Heat of these Fomentations takes off the Atonia & Spasm in the small Arteries & thus often produces flush & Remissions of the Fever. they sometimes bring on an entire Solution of the Fever. ~~they~~ When they provoke flush they seldom fail of curing Fevers in a little time.

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But in Order to excite the vigour of the System the Action of the Sanguiferous System must like be excited when it is too low or too weak. the Grs of the hot Fitt we said depends upon y Presence of the Phlogistic Diathesis; a want of a due Degree of hot Fitt is attended w.th a Loss of Tone in the Arterial System. this Occurs chiefly in putrid Diseases. the Medicines proper to excite the Action of the Arteries are Cold & tonic Remedies.

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Cold tends to excite the pulse. we see it bring on Inflammations. nay we know it to be the chief Cause of the Phlogistic Diathesis. It is therefore highly useful in nervous and putrid Diseases. we apply it in two ways 1st by cold Drinks. or 2 by cold Air or cold water applied to ye Body. Nature leads to cold Drinks by Instinct in all Fevers. warm Drinks were introduced only by Reflection and Art. Authors are divided in their Opinions concerning the use of cold

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Fevers

Drinks. I shall not enter into their Disputes, but briefly point out ye Cases in wch they are hurtful & useful.

1 Cold Drinks are hurtful in all Cases of Inflamm^y Fevers, or such Fevers as occur in cold Seasons or cold Climates.

2nd Cold Drinks should be employed wi^th Caution in the Beginning of all Fevers.

3rd They are highly useful in all nervous & putrid Fevers especially in their advanced State.

2nd In all Autumnal Fevers or the

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Fevers of warm Climates & warm Climates they are useful.

3.rd The Ancients used them about the time of the Exacerbation of Fevers. See Lomius upon this Practise. the Italians have greedily imitated the Practise of the Ancients in this Respect Having use Ice to cool their Water.

cold Applications to the Body is likewise an ancient Practise, but has been laid aside among the Moderns. Sir John Floyer has many Instances in his History of cold Bathing of the

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happy Effects y followed the accidental or voluntary plunging the body in cold water. But it is hard to reduce this Remedy to any Rules of Art. Several German & French Authors speak highly of the Advantages of Immersing in cold water in Fevers, but I cannot pretend to speak confidently of it. I think however it may be ranked among the Remedies that are to be used to excite the Action of the extreme Vessels, and to promote the tonica power of the whole System. It has been found

chiefly useful in the Potrichial Fever.

We come now to speak of ye tonic Medicines. These are very numerous such as Astringents fossil substances vegetable matters more especially the Peruvian Bark. I shall confine myself only to the Bark wch is ye most efficacious of any vegetable or fossil Astringent we are acquainted with. Some suppose that it Operates specifically, but I shall endeavour to explain its Operation in another way. Fevers we know comes on wth manifest Signs of Debility & Atonic. now the Bark acts by Obviating this

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Atonia. Other Astringent Substances produce the same Effects. if it is given while the Tone of the System is preter-naturally increased or during the Fever it does Mischief. It is hurtful likewise in all Inflam.: Fevers, but does most service in those Fevers in wch: the Sedative powers prevail such as ye putrid petechial & Jail Fevers. See numerous Examples of this in Dr: Haen Works. It may used therefore in the advanced state of almost all continual Fevers.

The Bath has been found highly useful

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in Gangrenes. Putrefactions in ye Animal Body can never take place but in Cases of an Atonia of the Nerves. now the Bark by obviating this Atonia removes the Gangrene or beginning Putrefaction. the Effusions wch terminate in Pus are always attended wth more or less of an Atonia of the Vessels. By giving Bark we check ye Effusions of red Globules & Obtain an Effusion only of that part of ye Blood from wch Pus is formed. The Bark therefore may be exhibited in all those

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Fevers where a Septic Laxity takes place wt^h^out any Regard to Remissions in them. The Bark proves Antiseptic when applied directly to the Body, but I can not suppose it is absorbed into ye Fluids. Its Action is confined only to the Solids. It often cures Intermittent Fevers when given half an hour before a Fitt comes On even in so small a Quantity as ℥ss. I conclude then that the Bark's Action is confined only to the Stomach whose Connection wth every part of the Nervous System you are all acquainted with.

Cullen
practice
vol. 1.